

Immigration and Redistribution

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Does immigration change support for redistribution? We design and conduct large-scale surveys and experiments in six countries to investigate how people perceive immigrants and how these perceptions influence their support for redistribution. We find striking misperceptions about the number and characteristics of immigrants. In all countries, respondents greatly overestimate the total number of immigrants, think immigrants are culturally and religiously more distant from them, and economically weaker—less educated, more unemployed, and more reliant on and favoured by government transfers—than they actually are. In the experimental part of our article, we show that simply making respondents think about immigration before asking questions about redistribution makes them support less redistribution, including actual donations to charities. The perception that immigrants are economically weaker and more likely to take advantage of the welfare system is strongly correlated with lower support for redistribution, much more so than the perceived cultural distance or the perceived share of immigrants. These findings are confirmed by further experimental evidence. Information about the true shares and origins of immigrants does not change support for redistribution. An anecdote about a “hard-working” immigrant has somewhat stronger effects but is unable to counteract the negative priming effect of making people think about immigration. Our results further suggest that narratives shape people’s views on immigration more deeply than hard facts.

Key words: Redistribution, Survey, Perceptions, Immigration, Taxation, Online experiment, Fairness.

JEL Codes: D72, D91, H21, H23, H24, H41

1. INTRODUCTION

The current vitriolic debate about immigration may appear light-years away from the poem

*“Give me your tired, your poor,
Your huddled masses yearning to breathe free”*

on the Statue of Liberty. Immigration has been a salient campaign topic in recent European and US elections, and a key concern in the debate around Brexit. Faced with immigration, many

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countries have experienced intensifying social and political conflicts over how to design their immigration policies and their welfare state. This raises two important questions: What is the link between citizens' perceptions of immigrants and their support for redistribution policy? And are citizens' perceptions about immigrants in their countries accurate?

In this article, we measure perceptions of and attitudes towards immigration, and study how they relate to support for redistribution. We design and run original, large-scale online surveys on a representative sample of about 24,000 non-immigrant respondents from six countries (France, Germany, Italy, Sweden, the UK, and the US). These countries have different welfare states and attitudes towards redistribution, but immigration has been at the centre of their political debates. We also experimentally document a significant link between attitudes towards and perceptions of immigration and support for redistribution policies.

One of our contributions is to carefully elicit respondents' perceptions of immigrants along many important dimensions—their number, origins and religions, education, employment, poverty, and reliance on government redistribution. We define an “immigrant” as somebody legally living in the country of the respondent but born abroad, in accordance with the official OECD definition (OECD, 2015).¹ We employ several survey techniques described below to ensure that these misperceptions about immigrants are not simply driven by lack of attention to the survey or carelessness. We then survey respondents about their views on their country's immigration policies and their attitudes towards immigrants. The sets of questions on perceptions of immigration and views on immigration policy are referred to as the “immigration block.”

The questions in the “redistribution block” explore respondents' views about redistributive policies, such as how to allocate the government's budget and how to tax people at different income levels. To take into account private (non-government-based) redistribution and test for a real effect of the treatments, we tell respondents that they are enrolled in a lottery to win \$1,000, but that before knowing whether they have won, they have to commit a share (which can be zero) of their gain to one or two charities that help low-income people.

We find that respondents have striking misperceptions about the number and composition of immigrants. In all the countries in our sample, the average and median respondents starkly overestimate the number of immigrants. For instance, in the US, the actual number of documented immigrants is 10% of the population, but the average perception is 36%; in Italy, the true share of immigrants is 10%, but the perceived share is 26%. Misperceptions about the size of the immigrant population are widespread among all groups of respondents across the political spectrum. Respondents also systematically misperceive the composition of immigrants. They believe immigrants are more culturally distant from non-immigrants. For instance, they overestimate the share of Muslim immigrants and underestimate the share of Christian immigrants. Misperceptions are also pervasive about the level of education and income of immigrants and about how much they rely on the receiving country's welfare state. Respondents who have the largest misperceptions are those with low levels of education, those who work in sectors with more immigrant workers, the non-college-educated, women, and right-wing respondents. While left- and right-wing respondents misperceive the share of immigrants to the same extent, they have very different views about the composition of immigrants and their contributions to the country.

A major challenge is to ensure that these misperceptions about immigrants are not driven by a lack of attention and to properly benchmark them against other misperceptions. To overcome this challenge, we ask respondents to also provide their perceptions about non-immigrants (e.g., non-immigrants' education, unemployment, or poverty levels). Respondents are, on average, more

1. We focus on documented immigrants because we want to abstract from issues of law enforcement and border control. In Europe, undocumented immigrants represent a small share of total immigrants. For the US, where they represent a larger share, we also provide a variation of our treatment using total immigrants.

inaccurate about immigrants than about non-immigrants. We also offer randomized, sizable, and varying monetary incentives for accurate answers to a subsample of respondents. Misperceptions are unaffected by monetary incentives, suggesting that respondents truly do not know the correct answers or that they hold on to their views very strongly. Furthermore, we measure respondents' "willingness to pay" for information about immigrants by giving them the option to pay a randomized amount of money at the end of the survey in exchange for the correct answers to all the questions about immigrants' characteristics. Just about half of respondents who receive this option are willing to pay at least 50 cents for the correct information. Those who have larger misperceptions are less willing to pay to get the correct information, conditional on the full set of respondent-level controls. This could be because respondents with more inaccurate views are more confident or less open to learning, which could also explain why they have larger misperceptions in the first place.

We also study what drives misperceptions about immigrants. We make use of our fine-grain location data for respondents to show that misperceptions are shaped by the actual number and characteristics of immigrants and by their differences relative to non-immigrants in the respondent's local area and country. The patterns we find imply that exposure to immigrants matters, that respondents do extrapolate from non-immigrants' characteristics to some extent, and that they tend to exaggerate differences between immigrants and non-immigrants (i.e., they tend to stereotype).

In the second part of the article, we examine the link between immigration perceptions and redistribution. We start by analysing the effects of a priming or salience treatment, which consists in randomizing the order in which respondents see the "redistribution block" and the "immigration block." This treatment tests whether simply making immigration more salient to respondents—without providing any additional information—affects their answers to the questions on redistribution. We find that making respondents think about immigration makes them significantly more averse to redistribution: they express less concern for inequality, a reduced wish for progressive taxes and redistributive spending, and they reduce their (real) donations to charity.

We then investigate the mechanisms driving this salience effect. When we correlate respondents' support for redistribution with their underlying perceptions, we find that the most important predictor of lower support for redistribution is the belief that immigrants free-ride on and take advantage of the welfare state, followed closely by the perception that immigrants are economically weak, i.e., have low education and high unemployment and poverty rates. The perceived share of immigrants and their perceived cultural distance both play a smaller role.

These findings are bolstered by our experimental results. During the survey, respondents are randomized into one of three branches, and each branch sees a different short video. The first two videos provide respondents with information on, respectively, the actual share of immigrants in their country and their origins. The third video tells the story of a hard-working immigrant. This treatment does not provide any factual data *per se* but rather aims to provide a narrative that counters the notion that immigrants free-ride and make little economic contribution.

Surprisingly, the two information treatments on the shares and origins of immigrants have negative, mostly insignificant effects on support for redistribution. However, this makes sense in light of the aforementioned finding that making the immigration issue more salient to respondents reduces support for redistribution. The video treatments unavoidably make immigration more salient, and the factual information does not have much power in shifting either perceptions of immigrants or attitudes towards redistribution. The anecdotal *Hard work* treatment, aimed at changing the narrative about immigrants' work ethic and free-riding, seems to move people more than factual information, especially when it comes to improving support for immigration. Although it cancels out more of the negative priming effect on support for redistribution, it is still unable to fully counteract it. These findings are consistent with the result that the perceived

lack of economic contribution and free-riding may be stronger drivers of reduced support for redistribution than either the perceived share of immigrants or their perceived cultural diversity. While simple facts do not change support for redistribution, a story about the hard work of immigrants that opposes the existing free-riding narrative does to some extent. However, because the narratives about and misperceptions of immigrants are deep-seated and hard to shift, salience and priming have stronger effects.

1.1. *Related literature*

Our article is related to the literature studying the relationship between cultural and social fragmentation and the welfare state. [Alesina and Giuliano \(2011\)](#) and [Stichnoth and Van der Straeten \(2013\)](#) review some of the key papers. A common result is that public and private generosity travel less well across racial, ethnic, religious, and nationality groups than within these groups. Earlier empirical papers about immigrants use existing surveys such as the International Social Survey Programme, the World Value Survey, or the European Value Survey ([Mayda, 2006](#); [Senik, Stichnoth and Van der Straeten, 2009](#); [Alesina, Murard and Rapoport, 2021](#)). Our newly designed cross-country surveys and experiments allow us to consider a much broader and more comprehensive set of perceptions about immigrants in a standardized, quantitative, and causal manner.

Natural experiments such as waves of migration have been exploited in several papers: [Dahlberg, Edmark and Lundqvist \(2012\)](#) identify a negative impact of refugees on reduced redistribution support in Swedish localities; [Chevalier, Elsner, Lichter and Pestel \(2018\)](#) consider the effects of the inflow of poor immigrants with voting rights in West Germany after WWII on redistribution; [Dustmann, Vasiljeva and Damm \(2019\)](#) estimate the causal impact of refugee migration on electoral outcomes in Denmark, leveraging a policy that assigned refugees quasi-randomly to different municipalities. By exploiting exogenous variation in European immigration to US cities in the first half of the 20th century, [Tabellini \(2020\)](#) shows that there has been a political backlash against immigrants, even if the immigrants economically benefit the community.

Our article also adds to the growing literature on stereotypes and group identity ([Bordalo, Coffman, Gennaioli and Shleifer, 2016](#); [Bonomi, Gennaioli and Tabellini, 2021](#); [Grossman and Helpman, 2021](#)). The misperceptions about immigrants that we document are examples of stereotypes. As the stereotype theory in [Bordalo *et al.* \(2016\)](#) predicts, the differences between some characteristics of immigrants and non-immigrants are exaggerated. For instance, in places where immigrants are more unemployed than non-immigrants, respondents tend to overestimate the unemployment of immigrants by even more. [Bonomi *et al.* \(2021\)](#) also offer important insights into our survey and experimental results. Group identity in terms of “immigrant” and “non-immigrant” causes respondents to rely on group stereotypes and polarize their beliefs along the distinguishing features of their groups. Shocks that make immigrants more salient—as in our experimental treatments—cause changes in beliefs and policy preferences.

Two recent papers consider information experiments related to immigration. [Barrera Rodriguez, Guriev, Henry and Zhuravskaya \(2020\)](#) show that French voters update their knowledge based on facts about immigration and fact-checking. However, exposing respondents to “alternative” facts on immigration from the far-right presidential candidate’s campaign (Marine Le Pen) increases support for her, even when her statements are followed by fact-checking. In a US-based survey, [Grigorieff, Roth and Ubfal \(2020\)](#) show how giving correct information about five characteristics of immigrants improves support for immigration among Republicans. Our results on immigration support are consistent with theirs, and we go further by linking perceptions of immigration to support for redistribution.

In political science, a few papers have studied the link between immigration and demand for redistribution exploiting questions in various waves of the European Social Survey. For instance, [Finseraas \(2008\)](#) points out that perceptions of immigration may have two competing effects on support for redistribution: according to the “anti-solidarity hypothesis,” people dislike redistributing towards immigrants, while according to the “compensation hypothesis,” people may increase their preferred level of redistribution if they fear losing income as a consequence of more immigration. He finds empirical support for both effects. [Burgoon, Koster and Van Egmond \(2012\)](#) show that these two effects can co-exist at different levels. At the national level, exposure to foreign-born people has little effect on support for redistribution, but occupational-level exposure increases demand for redistribution. [Emmenegger and Klemmensen \(2013\)](#) argue that the interplay between attitudes towards immigration and support for redistribution depends on individual motivations. Self-interested individuals who feel threatened by immigrants and strongly reciprocal individuals who perceive immigrants as having worse moral values experience a tension between immigration and redistribution. Egalitarian and humanitarian individuals do not experience this tension.²

Our contributions are, first, to provide new, detailed, and standardized international surveys that combine questions on the perceptions of and attitudes towards immigration and a range of different immigration and redistribution-related policies. Second, we investigate much more detailed and quantitative perceptions, about not only the number of immigrants but also their origins, religion, education, work effort, unemployment, and reliance on the welfare state. This is crucial because, contrary to findings from less-detailed questionnaires, it is not the perceptions of the share of immigrants *per se* that differentiate respondents but rather the perceptions of their cultural and economic characteristics. We also study from where these misperceptions stem. Third, our new treatments allow us to evaluate the causal relationship between perceptions of immigration and support for redistributive policies.

The rest of the article is organized as follows. Our data collection, survey construction, and experimental design are explained in detail in Section 2. The full survey text is in the [Supplementary Appendix](#). Section 3 describes the perceptions about immigrants across countries and respondent characteristics. Section 4 studies the drivers of these perceptions. We discuss the findings from the experimental part of our study in Section 5. The last section concludes.

2. THE SURVEY, THE EXPERIMENTS, AND DATA SOURCES ON IMMIGRATION

2.1. *Data collection and sample*

We conducted large-scale surveys between January and March 2018 in six countries: Germany, France, Italy, Sweden, the UK, and the US.³ The sample sizes are 4,500 for the US, 4,001 for the UK, 4,001 for Germany, 4,000 for France, 4,000 for Italy, and 2,004 for Sweden, for a total of 22,506 respondents.⁴ Only non-immigrants between 18 and 69 years of age were allowed to take the survey. We designed the surveys using an online platform, and the survey links were

2. In the same field, a long-standing debate focuses on whether anti-immigration sentiments arise purely from economic considerations or from worries about cultural dilution, and there is support for both views ([Hanson, Scheve and Slaughter, 2007](#); [Sides and Citrin, 2007](#); [Hainmueller and Hopkins, 2010](#); [Hainmueller and Hopkins, 2015](#); [Bansak, Hainmueller and Hangartner, 2016](#)). These papers focus on openness to *immigration*, not redistribution policies.

3. The main survey was fielded between mid-January and mid-February in the US, and from February to mid-March in European countries.

4. We chose this set of Western countries to have diverse shares and characteristics of immigrants and different welfare states. We discuss the choice of sample sizes in [Supplementary Appendix A-12](#).

TABLE 1
Sample characteristics

	US		UK		France		Italy		Germany		Sweden	
	Sample (1)	Pop (2)	Sample (3)	Pop (4)	Sample (5)	Pop (6)	Sample (7)	Pop (8)	Sample (9)	Pop (10)	Sample (11)	Pop (12)
Male	0.48	0.49	0.48	0.48	0.49	0.49	0.50	0.50	0.50	0.49	0.50	0.50
18–29 y.o.	0.24	0.24	0.24	0.26	0.23	0.23	0.19	0.19	0.23	0.22	0.22	0.24
30–39 y.o.	0.19	0.20	0.18	0.19	0.19	0.20	0.22	0.22	0.17	0.18	0.19	0.19
40–49 y.o.	0.19	0.19	0.22	0.21	0.22	0.21	0.24	0.23	0.20	0.20	0.20	0.21
50–59 y.o.	0.21	0.20	0.19	0.18	0.20	0.20	0.19	0.19	0.23	0.23	0.19	0.18
60–69 y.o.	0.18	0.17	0.17	0.16	0.16	0.15	0.16	0.17	0.16	0.17	0.19	0.18
Income bracket 1	0.16	0.16	0.30	0.31	0.30	0.32	0.28	0.27	0.25	0.26	0.33	0.33
Income bracket 2	0.19	0.19	0.35	0.35	0.31	0.30	0.29	0.28	0.29	0.29	0.28	0.29
Income bracket 3	0.22	0.22	0.12	0.11	0.14	0.14	0.20	0.19	0.23	0.23	0.22	0.22
Income bracket 4	0.43	0.43	0.24	0.23	0.25	0.24	0.23	0.26	0.22	0.22	0.17	0.17
Married	0.51	0.49	0.52	0.41	0.42	0.46	0.58	0.46	0.47	0.46	0.34	0.33
Employed	0.60	0.70	0.68	0.74	0.64	0.65	0.65	0.57	0.65	0.75	0.72	0.77
Unemployed	0.08	0.05	0.04	0.05	0.10	0.09	0.11	0.11	0.04	0.04	0.04	0.05
College	0.51	0.41	0.37	0.36	0.50	0.31	0.36	0.16	0.27	0.25	0.43	0.36

Notes: This table displays summary statistics for the main analysis sample (in odd columns) alongside nationally representative statistics (in even columns). Detailed sources for each variable and country are: (1) For the US: The Census Bureau and Current Population Survey. Income brackets (annual gross household income, in Dollars) are defined as less than 20,000; 20,000–40,000; 40,000–70,000; more than 70,000. (2) For the UK: Eurostat Census Data and Office of National Statistics. Income brackets (monthly net household income, in Pounds) are: less than 1,500; 1,500–2,500; 2,500–3,000; more than 3,000. (3) For France: Eurostat Census Data and INSEE. Income brackets (monthly net household income, in Euros) are: less than 1,500; 1,500–2,500; 2,500–3,000; more than 3,000. (4) For Italy: Eurostat Census Data, Bank of Italy and ISTAT. Income brackets (monthly net household income, in Euros) are: less than 1,500; 1,500–2,450; 2,450–3,350; more than 3,350. (5) For Germany: Eurostat Census Data and GfK Demographics. Income brackets (monthly net household income, in Euros) are: less than 1,500; 1,500–2,600; 2,600–4,000; more than 4,000. (6) For Sweden: Eurostat Census Data and Statistics Sweden. Income brackets (monthly gross household income, in SEK) are: less than 33,000; 33,000–42,000; 42,000–58,000; more than 58,000. We count as employed both full-time and part-time workers. See [Supplementary Appendix Table A-5](#) for the equivalent statistics for the “raw” sample.

diffused by commercial survey companies in each country. For the US, respondents were reached through C&T Marketing (<http://www.ctmarketinggroup.com>), and in the European countries by *Respondi* (<https://www.respondi.com/EN/>). These companies partner with panels of respondents. Respondents who elect to take the survey are first channelled through some screening questions that ensure that the final sample is nationally representative along with the gender, age, and income dimensions. Respondents are only paid if they complete the survey fully. The pay per survey completed was around \$3. The average time to complete the survey was 27 min and the median time was 21 min in the main analysis sample.⁵ In the US, we implemented a follow-up survey for each respondent, 1 week after they took the initial survey. This allows us to test for the persistence of the treatment effects. We also conducted an additional survey in the US in February 2019 on 1,650 respondents to check responsiveness to monetary incentives and measure willingness to pay for correct information.

The final sample is close to representative in each country. Table 1 shows the characteristics of our main analysis sample relative to the population in each country.⁶ Population statistics are from the Census Bureau and the Current Population Survey for the US, and from Eurostat and various national statistical offices for European Countries, as described in the table notes. By construction, we are almost perfectly representative along the dimensions of age, gender, and

5. We provide the full distribution of survey duration for the main analysis sample in [Supplementary Appendix Figure A-8](#).

6. [Supplementary Appendix Table A-6](#) reports the characteristics of the additional US sample.

income (binned into four brackets to mimic the way the quotas are imposed during the survey). In addition, our sample is generally representative on non-targeted dimensions. Our respondents are slightly less likely to be employed (except in Italy), but no more likely to be unemployed (except, to a small extent, in the US). For some countries, such as the US, France, and Italy, college-educated respondents are over-represented in our sample. To address these small imbalances, we show that all our results are robust to re-weighting the sample so that it is representative along the employment and education dimensions as well (see [Supplementary Appendix A-13.3](#)).

2.2. *The survey: an overview*

The full survey in English is in [Supplementary Appendix A-4.3](#). The questionnaires in German, Italian, French, and Swedish can be seen by following the links to the web interface in [Supplementary Appendix A-4.1](#). We asked several native speakers to check that the translations were adapted to the local culture and understanding. Below, the text in italics represents actual survey text; answer options, if any, appear in square brackets. For the sake of exposition, we provide example text from the US survey.

There are two possible definitions of documented immigrants: (1) by citizenship (all people legally living in the country who do not have citizenship) and (2) by country of birth (all people who legally live in the country but were born in another country). We use the second definition, which is the one most frequently used by the OECD ([OECD, 2015](#)) because it is more comparable across countries, i.e., is not affected by countries' citizenship policies. Thus we give the following definition of an immigrant:

“In what follows, we refer to immigrants as people who were not born in the US and legally moved here at a certain point of their life. We are NOT considering illegal immigrants.”

We focus on documented immigrants for two reasons. First, undocumented immigration may pose very different challenges and thus generate different reactions among respondents than documented immigration. Second, it seems conceptually useful to separate the issue of support for immigration (how many immigrants respondents think there should be and how receptive their home country should be to them) from the issue of enforcement of immigration laws. We thus decided not to mix the issues of legal immigration and illegal entry. This distinction is most relevant in the US, where close to 3.5% of the population are undocumented immigrants. In the European countries, the share of undocumented immigrants is very small and does not make any substantive difference to any of the statistics about immigration that we compute. For the US, we explain below how we construct all statistics for documented immigrants. For completeness, we compute the full set of statistics for total and undocumented immigrants in [Supplementary Appendix A-2](#).

2.2.1. Background socioeconomic questions. We collect information on respondents' gender, age, income, education, sector of occupation, employment status, marital status, number of children, place of residence, and political orientation. More precisely, we ask respondents which party or candidate they voted for or would have voted for (in case they did not vote) in the last presidential (or parliamentary) election, as well as their views on economic policy, on a spectrum ranging from “very liberal” to “very conservative.” If an election was impending at the time of the survey (as was the case in Italy and Sweden), we also ask for which party or candidate they planned to vote. We also include a question on whether one or both parents of the respondent were immigrants. Since we collect information on the respondent's sector of employment (and, if they are currently unemployed, on the sector in which they last worked),

The pie chart below represents all the people currently living in the U.S. Out of all these people currently living in the U.S., how many do you think are legal immigrants? Move the slider to indicate how many out of every 100 people you think are legal immigrants.

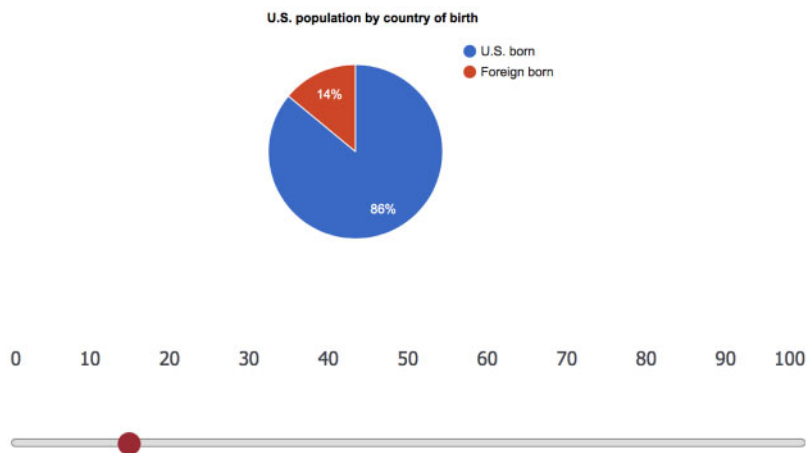


FIGURE 1

Eliciting perceptions on the share of immigrants

Notes: This figure shows the slider and pie chart US respondents see when they are asked about their perceived share of immigrants. When respondents land on the page, the pie chart is fully grey and the slider is at zero. The pie chart adjusts in real time as respondents move the slider, appearing in two colours: one representing the share of US-born people, the other representing the share of foreign-born ones.

we are able to classify respondents into “high immigration sectors,” which we define as sectors in which the share of immigrants is above the national average. The full sector classification is reported in [Supplementary Appendix A-3](#).

2.2.2. The video treatments. The randomly chosen treated respondents watch one of three treatment videos, which are available on YouTube.⁷ We describe these treatments and their effects in Section 5.

2.2.3. Immigration block. First, the respondent is asked what share of the population are immigrants using a slider and a pie chart, as illustrated in Figure 1. When the respondent lands on this page, the pie chart appears fully grey and the slider is at zero. As respondents move the slider, the pie chart interactively appears in two colours: one representing the share of US-born residents, the other the share of foreign-born residents. The slider and pie chart design serves three purposes. First, it is much less tempting to enter round numbers: as the histograms in [Supplementary Appendix Figure A-11](#) show, there are relatively few round numbers reported. Second, the interactive and coloured display that reacts in real-time to respondents’ movements captures their attention. Third, the pie chart naturally benchmarks the question: respondents are forced to see that, whatever the share of immigrants they enter, the share of non-immigrants is 100% minus that share.

We then ask respondents what share of the total immigrants in their country come from each of nine regions of origin—Canada, Latin America, Western Europe, Eastern Europe, North Africa,

7. The links are: <https://youtu.be/2bVzfv0a-fE>; https://youtu.be/-603kdm_GkA; https://youtu.be/_1SoLYX8OyE.

Sub-Saharan Africa, the Middle-East, Asia, and Australia/New Zealand. Again, we use a slider plus a pie chart display shown in [Supplementary Appendix Figure A-7](#). There is one slider per region of origin and the pie chart adapts in real-time with different colours for each region. A sticky map at the top shows the boundaries of each region with matching colours.

We also ask about the religions of immigrants before turning to questions about the economic circumstances of immigrants, namely, their unemployment level, their likelihood of having a college education or of not having completed high school, the share living below the official poverty line, and the government transfers they get relative to the average non-immigrant. Importantly, we always ask about the same statistic for non-immigrants in order to have a comparison point and be able to benchmark respondents' misperceptions.

To give an example, the question about poverty in the US survey reads as follows:

“Out of every 100 people born in the US, how many live below the poverty line? The poverty line is the estimated minimum level of income needed to secure the necessities of life.”

“Let’s compare this to poverty among legal immigrants. Out of every 100 legal immigrants in the US today, how many do you think live below the poverty line?”

We then ask about perceptions of the work effort of immigrants:

“Which has more to do with why an immigrant living in the US is poor?” [Lack of effort on his or her own part; Circumstances beyond his or her control.]

“Which has more to do with why an immigrant living in the US is rich?” [Because she or he worked harder than others; Because she or he had more advantages than others.]

Our next question describes two people, “John” and “Mohammad,” who are identical along all dimensions, except that Mohammad is a documented immigrant. The exact names used are adapted to each country to feature one non-immigrant-sounding and one immigrant-sounding name. Respondents are asked whether Mohammad pays more or less taxes than John and whether he receives more or less transfers. This complements the question on average transfers received, by holding everything relevant fixed—thus, if respondents respond anything other than “the same,” they are expressing some bias in favour of or against the immigrant.

The next set of questions asks about views on immigration policy and covers four areas: (1) the number of immigrants the respondent believes should be allowed to enter the country and whether or not the current number is problematic; (2) when immigrants should be eligible for transfers such as welfare payments; (3) when immigrants should be allowed to apply for citizenship and vote in elections; (4) when the respondent would consider an immigrant to be “truly American.”

2.2.4. Redistribution block. This block of questions is about general redistribution towards low-income individuals. It never makes any reference to immigrants. The questions also refer to the “government” in general, not specifically to the incumbent government.⁸ For the US and Germany (the two federal countries in our sample), we explicitly state that we refer to total spending and taxes at the “federal, state, and local levels.” Our questions are designed to address two aspects of government intervention, holding the other one fixed: (1) how to raise the funds needed for government policies and (2) how to spend a given level of funds. We first explain to respondents that we will ask them separately about how to raise a given tax burden (Aspect 1) and then how to allocate it to the different major spending categories (Aspect 2): “*For the*

8. Several questions are taken from [Alesina, Stantcheva and Teso \(2018\)](#) and [Kuziemko, Norton, Saez and Stantcheva \(2015\)](#).

purpose of these questions, suppose that the level of government spending is fixed at its current level and cannot be changed."⁹

Taxes: To provide more details about Aspect 1, respondents are asked to select average income tax rates for four income groups using sliders: the top 1%, the next 9%, the next 40%, and the bottom 50%. The taxes they select are constrained to raise the current level of revenue in their country. This is illustrated in [Supplementary Appendix Figure A-5](#).¹⁰

Spending: On Aspect 2, we ask respondents to allocate 100% of the budget to seven spending categories: (1) Defense and National Security; (2) Public Infrastructure; (3) Spending on Schooling and Higher Education; (4) Social Security, Medicare, Disability Insurance, and Supplementary Security Income; (5) Social Insurance and Income Support Programs; (6) Public Spending on Health; and (7) Affordable Housing (see [Supplementary Appendix Figure A-6](#)). Some of these spending categories are redistributive (in particular, (3), (4), (5), (6), and (7)) while others are not (i.e., (1) and (2)).

Donation to charity: To end the redistribution block and to provide an outcome that is not self-reported, we tell respondents that they have been automatically enrolled in a lottery to win \$1,000. Before they know whether they have won or not, they need to commit to donating none of it, part of it, or all of it to one or two charities. We selected two charities in each country to be (1) targeted towards low-income adults or children in general and not concerned with immigrants in particular; (2) well-known in each country. They are listed in [Supplementary Appendix A-4.4](#). For instance, for the US we chose "Feeding America" and "The Salvation Army."

2.2.5. Layers of randomization. The order in which the "redistribution block" and "immigration block" are shown to respondents is randomized. Combined with the randomization layer that shows people one of the three videos or no video, this creates eight treatment or control groups, summarized in [Supplementary Appendix Table A-1](#). [Supplementary Appendix Table A-13](#) shows that each randomization is balanced along observable respondent characteristics.¹¹

2.2.6. Additional survey with monetary incentives. To ensure that our results are not driven by respondents' lack of attention or careless answers, we provide monetary incentives for accurate answers in an additional sample of 1650 US respondents. We randomize whether respondents receive any monetary incentives, as well as the amount received. We also measure their willingness to pay for accurate information about immigrants. More precisely, at the end of the survey, we ask participants whether they are willing to forfeit part of their potential prize from the lottery in the redistribution block in exchange for the correct answers to all the questions about immigrants. We randomize among different "prices" of information ranging from \$0.5 to \$10. Only those respondents who agree to give up part of their potential prize are shown the correct answers. We highlight that this information is difficult to find online. Respondents are then asked whether they are surprised by the correct answers.

9. We also ask respondents several detailed questions about their views on the role and scope of government.

10. While respondents select tax rates on each of the four groups, a fifth slider at the bottom moves and depicts the fraction of the revenue target that has been raised. When the revenue target has been met, the slider turns green and a message alerts the respondent.

11. Two exceptions are that respondents 18–45 years old and those with a college degree are slightly under-represented in the *Hard work* treatment and respondents with a college degree are slightly over-represented in the *Share of immigrants* treatment.

2.3. Data on immigration at the national and sub-national levels

Many of our perception questions can be checked against actual data. We construct the empirical counterparts to these variables using US and European data both at the national and at the local level (commuting zone in the US, NUTS1 in Germany and the UK, NUTS2 in Italy, France, and Sweden). [Supplementary Appendix A-2](#) lists all the data sources and details the construction of these statistics. For the US, we construct statistics for documented immigrants, as well as for undocumented and total immigrants, and provide bounds using several different data sources, which could be useful for future research. Throughout the article, statistics on immigrants at the national level are for documented immigrants only. Statistics at the sub-national level come from the American Community Survey in the US (which does not allow us to distinguish between documented and undocumented immigrants) and from Eurostat and national statistical offices for European countries, in which the number of undocumented immigrants is estimated to be small.¹²

2.4. Ensuring high quality responses

In addition to providing monetary incentives for accurate answers and to benchmarking views about immigrants to views about non-immigrants, we employ several techniques to ensure high-quality responses. In the survey's landing page—depicted in [Supplementary Appendix Figure A-1](#)—we warn respondents that “*responding without adequate effort may result in [their] responses being flagged for low quality,*” and that their pay for the survey may be withheld. We also appeal to their social responsibility by emphasizing that we are non-partisan researchers seeking to advance social studies. We highlight that it is “*very important for the success of our research that you answer honestly and read the questions very carefully before answering.*”

Questions are designed to minimize careless answers. For instance, percentages are constrained to add up to 100% and respondents cannot move to the next page before they satisfy this constraint. Whenever possible, we let respondents use sliders (for instance, see [Figure 1](#)) and represent their answers in real-time on pie charts, so that they have a visual counterpart to the numbers they are inputting. Questions are initialized with sliders at zero and the pie charts in grey. We keep track of the time spent by the respondent on the survey as a whole, as well as on individual questions. Thus, we can flag those that spend too little time on either the full survey or on specific questions. The distribution of survey duration is depicted in [Supplementary Appendix Figure A-8](#). For the benchmark analysis, we drop respondents in the top 2% and bottom 2% of the survey time distribution, as well as respondents who spent too much time (top 2%) on one of the treatment videos. We thereby filter out people who either rushed through the survey or who were clearly inattentive and getting distracted by other activities during the treatment (instead of watching the video and realizing that the video had ended). Our results are unaffected by trimming these outliers, as discussed in the robustness checks in [Section 5.5](#). Furthermore, we can test for survey fatigue by exploiting the randomization of the survey blocks in [Supplementary Appendix A-6.4](#).

Just before the questions on immigrant perceptions, we strategically place an attention check question, asking respondents whether they have paid careful attention to the preceding questions and whether they honestly believe that we should count their responses in our analysis (99.5% answer yes). This type of question is used to prompt the respondents to pay attention to the subsequent questions the survey, regardless of whether they answer honestly or not ([Meade and Craig, 2012](#)).

12. The raw data and all our calculations for the national and local statistics are available in the Excel spreadsheets in the replication package at <https://doi.org/10.5281/zenodo.5997521>.

In addition, we ask respondents whether they thought that our survey was biased towards left-wing or right-wing opinions. 10.6% of respondents felt the survey was left-wing biased, and 6.2% thought it was right-wing biased. Dropping respondents who felt the survey is biased strengthens our treatment effects somewhat (see [Supplementary Appendix A-13.2](#)). Finally, we implement a number of *ex post* checks to flag answer patterns that are indicative of carelessness (see [Section 5.5](#)).

3. PERCEPTIONS OF IMMIGRATION

In this section, we describe respondents' perceptions about immigrants, focusing on some key results. We define variables used in the analysis as we go, and detailed definitions are in [Supplementary Appendix A-1](#). For a more comprehensive overview, [Supplementary Appendix Table A-2](#) reports the average, median, and interquartile ranges of perceptions for each country, as well as the actual statistics about immigrants. [Supplementary Appendix Table A-3](#) provides the same information, but by respondent group. All these descriptive statistics are based on respondents who did not see any of the video treatments.

3.1. Misperceptions: share, origins, and economic circumstances

3.1.1. The share of immigrants. The left panel of [Figure 2](#) shows the average perception of the share of immigrants in each country, as well as the actual share. The shaded areas represent the 95% confidence intervals around the average perceptions.

The discrepancy between perceptions and reality is striking. With the exception of Sweden, the average respondent in all countries thinks the share of immigrants is at least twice as high as it actually is. In the US, respondents believe that there are 36.1% immigrants when the actual share of immigrants is 10%. In Italy, the share of immigrants is 10%, but respondents believe it is 26.4%. Swedish respondents are the most accurate, but still substantially inaccurate: the actual number

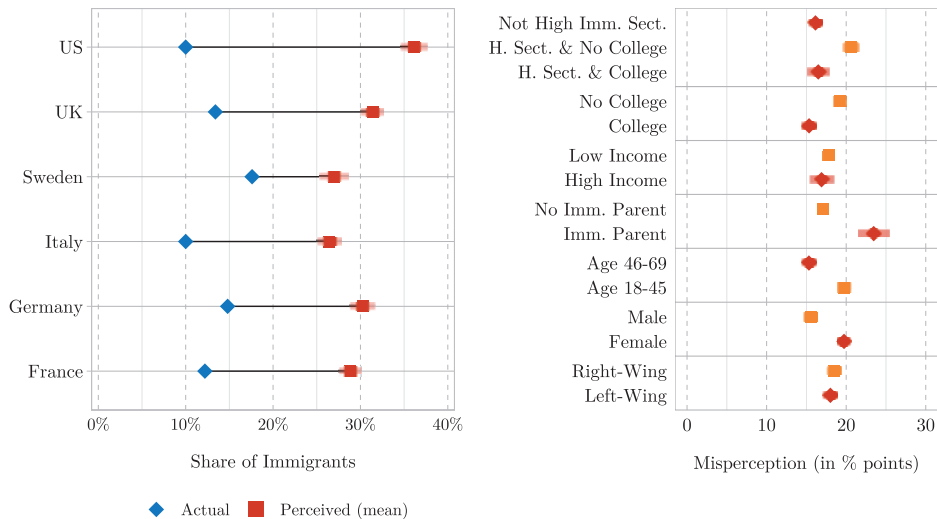


FIGURE 2

Perceived vs. actual share of immigrants

Notes: The left panel shows the average perceived share of immigrants (squares) and the actual share (diamonds) in each country. The right panel shows the average misperception (perceived minus actual share) of the share of immigrants by group. Groups are defined by the indicator variables listed to the left: the mean misperception when the indicator is equal to 1 is represented by the diamonds or the squares. The shaded areas are 95% confidence intervals around the mean.

of immigrants is 17.6% (the highest among the countries sampled), but the average perception is 27%. The median respondent perceives a lower share than the average respondent, indicating some right-skewness in the distribution of perceptions. However, even the median respondent starkly overestimates the share of immigrants. Respondents around the 25th percentile of the perception distribution correctly perceive the share of immigrants, except in the US, where even the 25th percentile respondent still substantially overestimates the share of immigrants.

The complete distribution of misperceptions on the share of immigrants is in [Supplementary Appendix Figure A-11](#). Misperceptions are defined as the perceived value minus the actual value. There are some respondents who believe the share of immigrants is very high. However, even if we exclude respondents whose misperception is in the top 20%, we still get substantial misperceptions: the average perceived share of immigrants excluding the top 20% is 27% in the US, 24% in the UK, 21% in France, 19% in Italy, 22% in Germany, and 20% in Sweden.¹³

The right panel of [Figure 2](#) shows the average misperceptions of respondents grouped according to several personal characteristics (all countries pooled), listed on the y axis.¹⁴ The shaded areas represent the 95% confidence intervals around the average perceptions. The groups are: those who work in high immigration sectors and have a college degree; those who work in high immigration sectors but have no college degree; the college-educated; the non-college-educated; high-income respondents; low-income respondents; those who have an immigrant parent; those who do not have an immigrant parent; respondents 18–45 vs. 46–69 years old; male vs. female; and left-wing vs. right-wing. We classify respondents into high immigration sectors based on whether their current sector of employment (or their last sector, if they are currently unemployed), has an immigrant share higher than the national average (see [Supplementary Appendix A-3](#)). Within high immigration sectors, we distinguish between respondents with a college education and those without. Left-wing and right-wing respondents are classified based on the party they voted for in the last election (see [Supplementary Appendix A-1](#)).

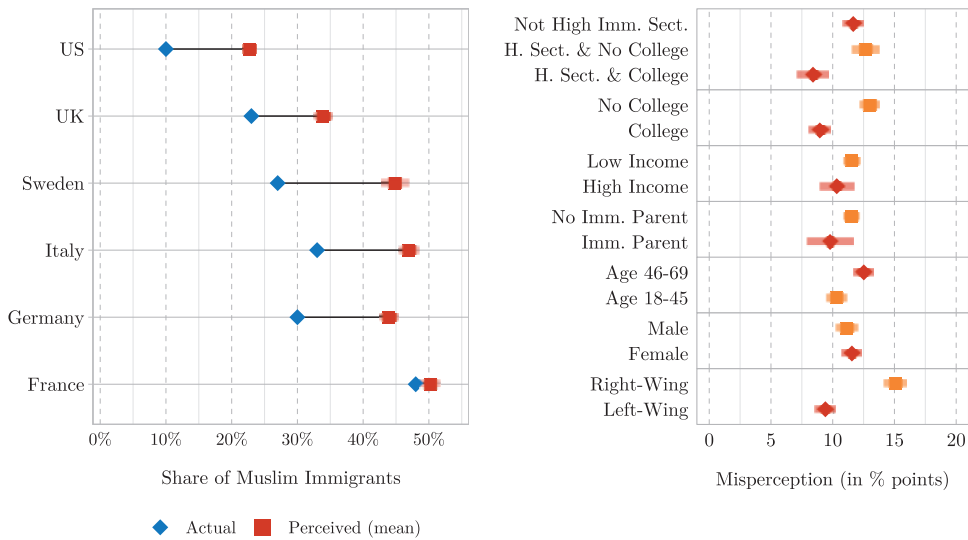
There are three key findings. First, respondents in all groups think there are substantially more immigrants than there actually are—in no group is the average misperception less than 15 percentage points. Second, some groups of respondents have substantially larger misperceptions than others. These are respondents who do not have a college degree and work in high immigration sectors, the non-college-educated, those with an immigrant parent, younger respondents, and women. Third, there is no difference in the average perception of the share of immigrants for left- and right-wing respondents. However, misperceptions about the characteristics of immigrants are very correlated with respondents' political orientation.

3.1.2. The origins and religions of immigrants. Respondents misperceive not only the total share of immigrants in their country but also their origins and religions, as shown in [Figure 3](#) and [Supplementary Appendix Table A-2](#). Respondents in all countries think that immigrants come disproportionately from non-Western countries, such as the Middle East, Sub-Saharan Africa, or North Africa (see [Supplementary Appendix Table A-2](#)). They underestimate the share of immigrants coming from countries that are culturally closer to theirs. In particular, US respondents very sharply overestimate North African and Middle Eastern immigrants, as do Italian, British, and Swedish respondents. France overestimates Middle Eastern immigrants by

13. Even if we exclude respondents who spent less than 12 seconds on this question, the average perceived share of immigrants is 35% in the US, 30% in the UK, 29% in France, 25% in Italy, 30% in Germany, and 26% in Sweden.

14. This figure and the subsequent figures show unconditional means by group. For the full regression results with perceptions and attitudes as dependent variables, and the full array of respondent characteristics as covariates, see [Supplementary Appendix Table A-4](#).

A



B

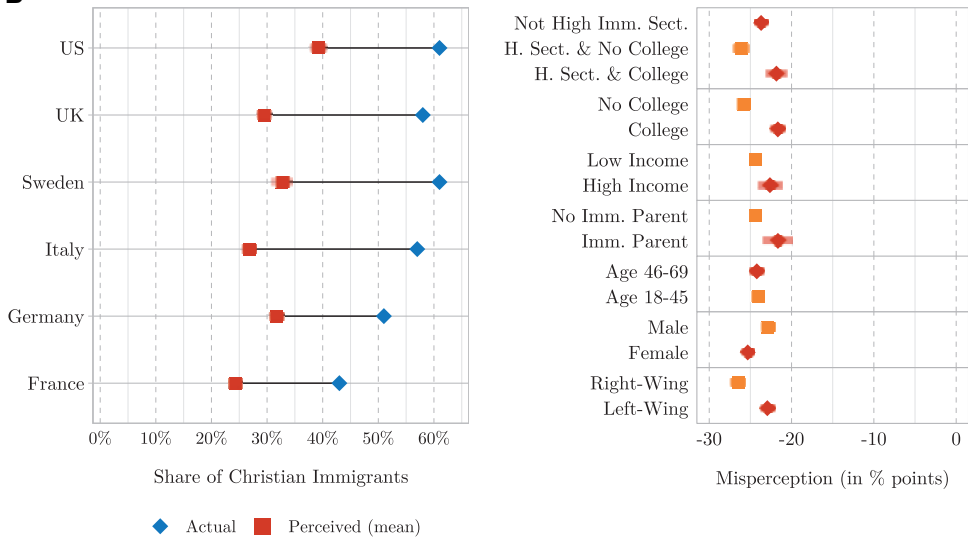


FIGURE 3

Perceived vs. actual religion of immigrants

Notes: (A) This figure shows the perceived and actual share of Muslim immigrants; (B) This figure shows the perceived and actual share of Christian immigrants. See the notes for Figure 2.

a factor of two but slightly underestimates North African immigrants. In Germany, respondents overestimate the share of North African immigrants by a factor of 10, but correctly estimate the share of Middle Eastern immigrants.

In all countries except France, respondents also significantly overestimate the share of Muslim immigrants (Figure 3). The largest misperceptions along this dimension are in the US—where

respondents believe 23% of immigrants are Muslim, while the reality is closer to 10%—and in Sweden—where the perceived share of Muslims is 45%, while the reality is 27%. Respondents in the UK, Italy, and Germany overestimate the share of Muslim immigrants by between 10 and 14 percentage points. In all countries, without exception, respondents underestimate the share of Christian immigrants (the most represented religion in our sample countries). The non-college-educated, older respondents, women, and right-wing respondents have the largest misperceptions about the origins and religions of immigrants.

3.1.3. Unemployment and education of immigrants. We now turn to the misperceptions about the economic circumstances of immigrants, which we benchmark against misperceptions about non-immigrants. Figure 4A compares the perceived share of immigrants and non-immigrants with a college degree. The misperception about non-immigrants is consistently larger (i.e., more positive) than the misperception about immigrants, either because respondents overestimate the share of college-educated non-immigrants by more (in Sweden, Italy, Germany, and France) or because they underestimate the share of college-educated immigrants by more (in the US and the UK). Left- and right-wing respondents have similar misperceptions about non-immigrants, but right-wing respondents have significantly larger misperceptions about immigrants.

Figure 4B shows that, in all countries, respondents starkly overestimate the share of immigrants and non-immigrants that are unemployed. This highlights the importance of benchmarking. A possible explanation is that respondents do not understand the distinction between unemployed and out of the labour force, even though we state it clearly, which is not surprising given that the difference between a discouraged individual who is not searching for a job and an unemployed person can be subtle.¹⁵ However, although respondents overestimate both immigrants' and non-immigrants' unemployment, they consistently perceive a higher unemployment rate for immigrants. In Germany, the misperception of unemployment is 32 percentage points for immigrants and 16 percentage points for non-immigrants; in France, it is 22 percentage points for immigrants and 18 for non-immigrants; in Sweden, it is 21 percentage points for immigrants and 10 percentage points for non-immigrants. While left- and right-wing respondents overestimate the unemployment rates of non-immigrants to the same extent, right-wing respondents overestimate the unemployment rate of immigrants by significantly more.

3.1.4. Work effort of immigrants. Figure 5A plots the share of respondents who say that immigrants are poor because of lack of effort rather than due to circumstances beyond their control. We compare this to the share of respondents who believe that poverty overall (for immigrants and non-immigrants) is due to lack of effort, which is elicited in Alesina *et al.* (2018), except for Germany.¹⁶ In France and Italy, people are more likely to think that lack of effort is the reason for immigrants being poor compared to a generic person. In the UK and Sweden, there is no difference in views about immigrants and non-immigrants. In the US, respondents are slightly more likely to attribute the poverty of immigrants to bad luck, compared to the poverty of an average person. Right-wing respondents are much more likely to believe that immigrants are poor because of lack of effort, which is consistent with previous work showing that they hold this belief about poor people in general (Alesina *et al.*, 2018).

15. "By unemployed we mean people who are currently not working, but searching for a job (and maybe unable to find one)."

16. Supplementary Appendix A-11 describes German respondents' answers to a question from the German General Social Survey (ALLBUS/GGSS, 2014), inquiring about the importance of several factors, including luck and hard work, for one's success.

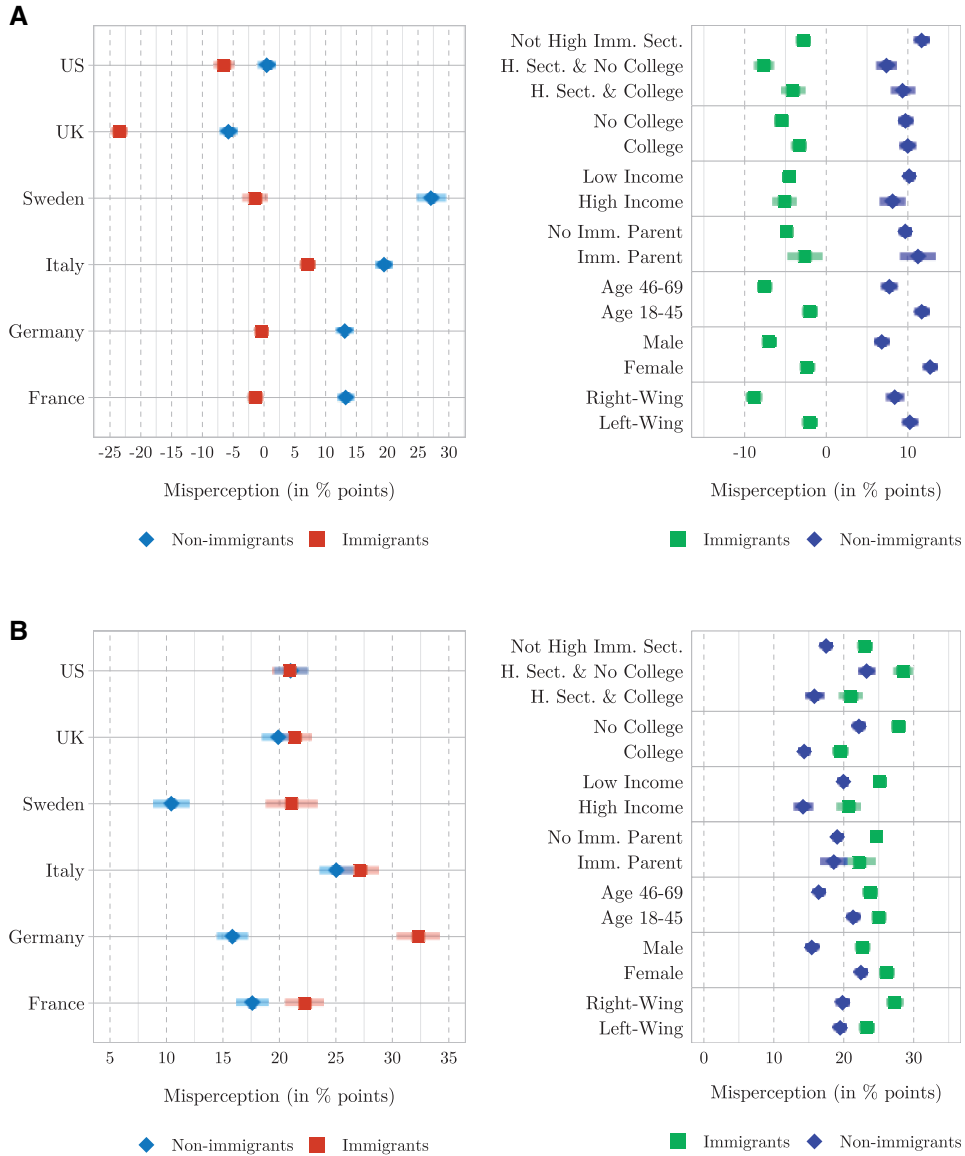


FIGURE 4

Misperception of immigrants' and non-immigrants' economic circumstances

Notes: (A) The left panel shows the average misperception (perceived - actual share) of the share of immigrant (squares) and non-immigrants (diamonds) with a college degree in each country; the right panel shows the average misperception of the share of immigrants (squares) and non-immigrants (diamonds) with a college degree by group. Groups are defined by the indicator variables listed to the left. The shaded areas are 95% confidence intervals around the mean. (B) This figure shows the average misperception of immigrants' and non-immigrants' unemployment rate by country (left panel) and by group (right panel).

Despite the differences in views on the causes of poverty for immigrants, views on why rich immigrants are rich are quite consistent across countries. Figure 5B shows that, in all countries, respondents think that effort is the main reason an immigrant is rich rather than advantageous circumstances. They are more likely to attribute affluence to hard work for immigrants than for a generic person. In Italy, the gap is particularly large: while only 17% of Italians believe that rich

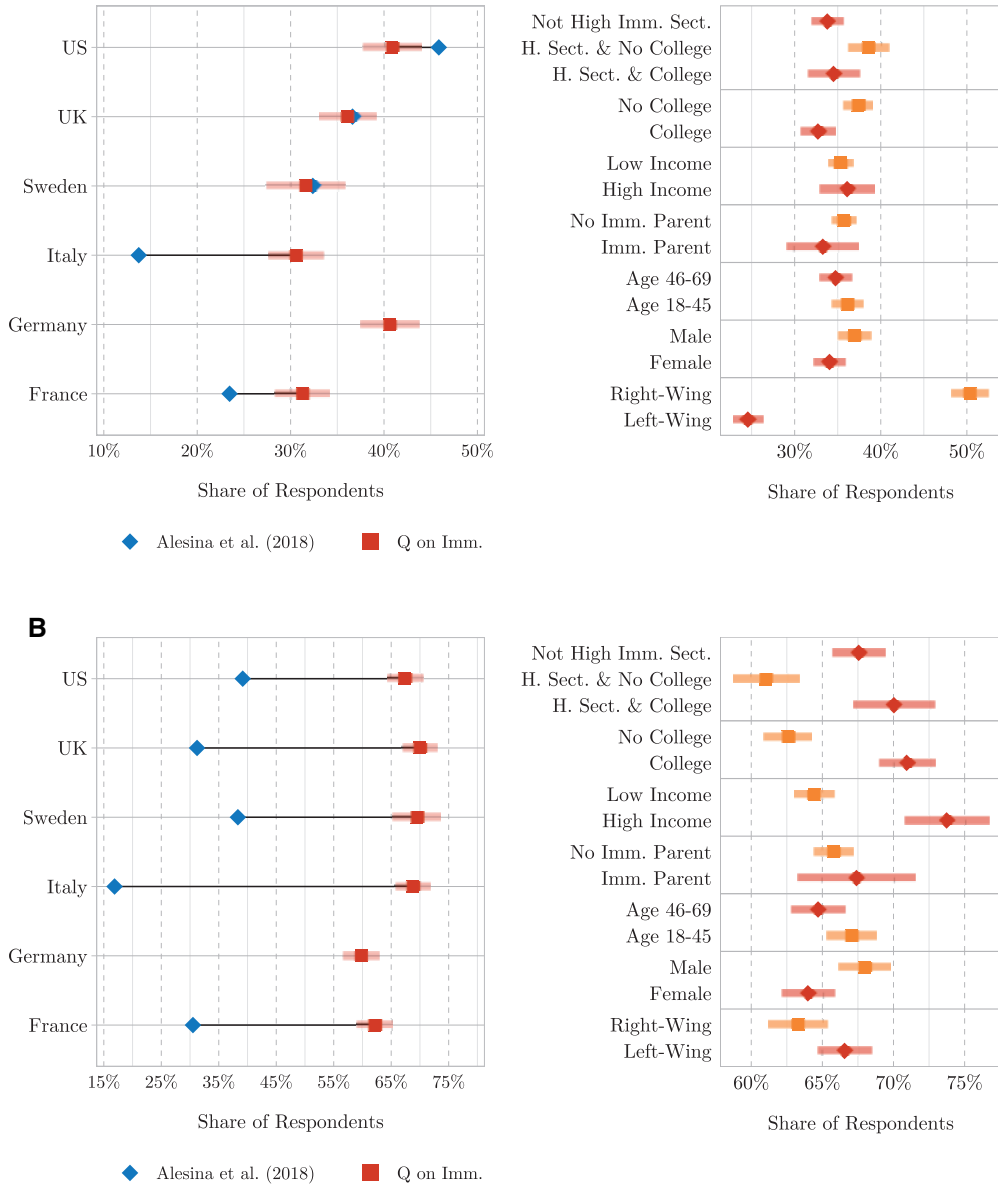


FIGURE 5

Views on immigrants' work effort

Notes: (A) This figure shows the share of respondents who think that immigrants who are poor are in that situation because of lack of effort, by country (left panel) and by group (right panel). (B) This figure shows the share of respondents who think that immigrants who are rich owe this to their own effort. Diamonds report the share of respondents who say the same about the general population, with numbers coming from Alesina et al. (2018). In the right panel, groups are defined by the indicator variables listed to the left: the share when the indicator is equal to 1 is shown by the diamonds or the squares. The shaded areas are 95% confidence intervals around the average share.

people overall owe their success to their own effort, 70% believe that rich immigrants are rich because of their hard work. The US, the UK, France, and Sweden exhibit similar—albeit smaller in magnitude—gaps.

Hence, respondents are more prone to attributing the poverty of immigrants to a lack of effort than the poverty of a generic person. However, they also believe that if an immigrant becomes rich, it is more likely the result of their own hard work rather than advantageous circumstances.

3.1.5. Immigrants and the welfare state. What are respondents' views about whether immigrants benefit more from redistribution than non-immigrants? Figure 6 answers this question in two ways. First, Figure 6A shows that in all countries, a significant proportion of respondents believe that an average immigrant receives more than twice as much in government transfers as an average non-immigrant; the share of respondents who believe this is 14% in the US, 18% in Italy and Sweden, and 24% in France. The groups that think immigrants benefit more on average from government transfers are the non-college-educated, women, lower-income respondents, and right-wing respondents. There are two potential explanations for this result. On the one hand, people may think that immigrants legitimately receive more transfers because they are on average poorer than non-immigrants. On the other hand, they may believe that immigrants receive more from the government not because they are poorer but because they are favoured by the welfare system and/or take advantage of it. To disentangle these two factors, we use the question in which we describe two men, John and Mohammad, as having the same socio-economic characteristics, except that one of them is an immigrant and the other is not. Figure 6B plots the share of respondents who say that Mohammad gets more transfers or pays less taxes than John. In all countries except Sweden, a substantial share of respondents say that Mohammad receives more transfers and/or pays less taxes, especially in France, Italy, and the US. The right panel shows that respondents without a college education, especially if they also work in an immigration-intensive sector, those who do not have immigrant parents, low-income respondents, and right-wing respondents are significantly more likely to say Mohammad receives on net more from the government.¹⁷

Figure 7 shows perceptions of the poverty rate of non-immigrants and immigrants. Poverty is defined based on disposable income after government taxes and transfers. Respondents in all countries except Sweden overestimate the level of poverty for both non-immigrants and immigrants. Furthermore, respondents overestimate the share of non-immigrants that live in poverty more than they do for immigrants, although they overestimate both shares, and they do perceive immigrants as being poorer than non-immigrants on average. The same groups of respondents who hold misperceptions about immigrants along other dimensions—right-wing respondents or those without a college degree working in immigration-intensive sectors—also overestimate the poverty rate of non-immigrants.

3.1.6. Summing up: perceptions of immigrants' conditions and redistribution. Respondents think that immigrants are less educated than they are, work less than is the case (are more “unemployed”), and are poorer than they are. However, although they are generally less accurate about immigrants than about non-immigrants, the fact that respondents overestimate the poverty rate of non-immigrants (after tax and transfers) by more may be at least in part because they believe that immigrants are, conditional on unemployment and education, favoured by the welfare system and benefit more from government redistribution.

17. In a smaller pilot, we randomized the name of the immigrant that was given in this question between a name that sounded (1) North American in the US; Western European for the European countries; (2) Hispanic in the US and France; Eastern European in the other European countries; and (3) Muslim. The bias against immigrants was apparent with all the name variations used, although we did not have enough power to detect statistically significant differences in the effects of each specific name.

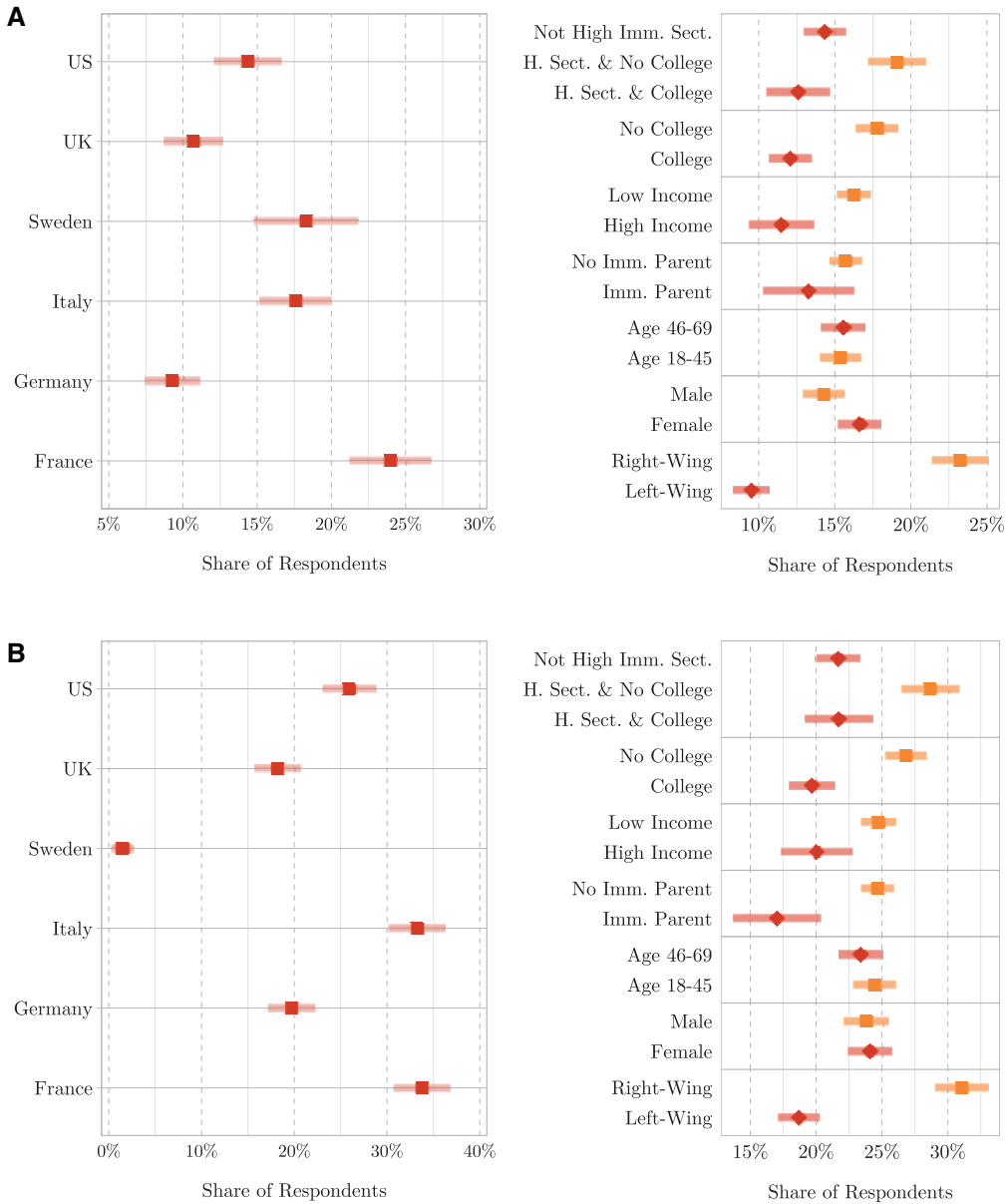


FIGURE 6

Are immigrants the beneficiaries of redistribution?

Notes: (A) This figure shows the share of respondents who think that an average immigrant receives at least twice as many government transfers as an average non-immigrant; (B) This figure shows the share of respondents who think that Mohammad receives more benefits on net (i.e., either receives more gross benefits or pays less taxes). See the notes for Figure 5.

3.2. Monetary incentives and willingness to pay for information

The monetary incentives provided for accurate answers to a randomly-chosen subsample of respondents in the additional US survey do not reduce misperceptions (see [Supplementary Appendix A-6.5](#)). Furthermore, recall that at the end of this survey, we ask

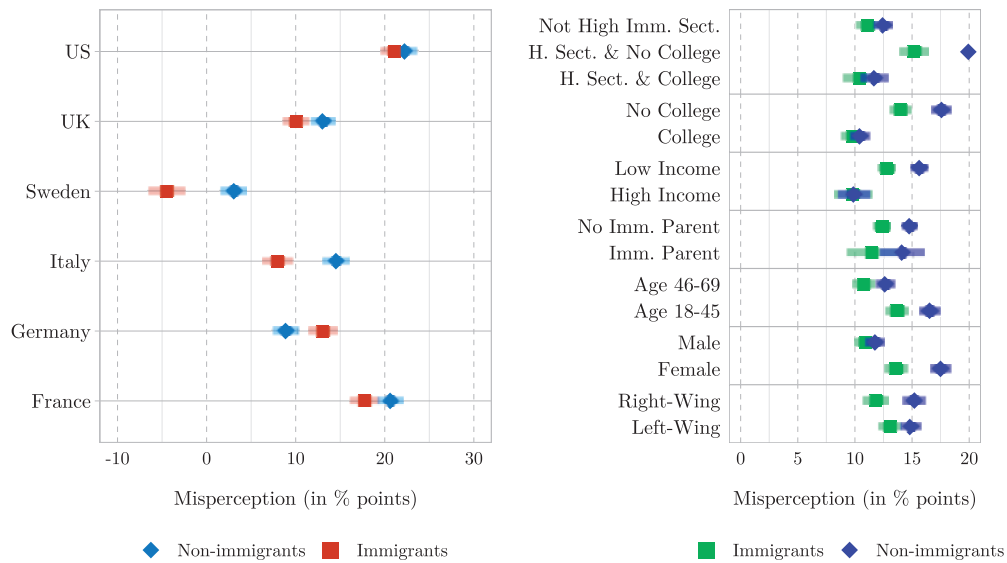


FIGURE 7

Misperception of poverty of immigrants and non-immigrants

Notes: This figure shows misperceptions of the share of immigrants and of non-immigrants who live in poverty. See notes for Figure 4.

participants whether they are willing to forfeit part of their potential prize from the lottery in order to receive the correct answers to all the questions about immigrants. We randomize the price of that information between the options \$0.5, \$1, \$2, \$5, and \$10. Forty-nine percent of all respondents are willing to pay to receive the correct information about immigrants. The share willing to pay is 51% for respondents presented with a price of \$0.5, and 45% for respondents randomized in the \$10 group (see [Supplementary Appendix Table A-12 Panel B](#)).

[Supplementary Appendix Table A-12](#) Column (1) shows the characteristics that correlate with willingness to pay for information. Even conditional on the level of misperceptions, right-wing respondents, women, non-college-educated, and younger respondents are less willing to pay for correct information. Furthermore, respondents with larger misperceptions are less willing to pay for information, conditional on its price, on their income, and other personal characteristics. This may be because respondents with more extreme views are more confident in their beliefs or less interested in seeking out information and learning, which could also explain their less accurate views. These findings provide a possible explanation for why stereotypes about immigrants persist. Respondents with less accurate views, i.e., more prone to stereotyping, are the least interested in learning the truth.

Among respondents who are told the accurate information, 51% say that they are surprised by it. Participants with larger misperceptions are more likely to be surprised. In the open-ended feedback box, respondents say they are particularly surprised by the share of Christian immigrants, and the share of college-educated immigrants.

3.3. Attitudes towards immigration policies

Figure 8 depicts the share of respondents by country (Figure 8A) or group (Figure 8B) who agree with the following statements (from bottom to top): (i) immigration is not a problem; (ii) immigrants should be eligible for benefits at the latest 3 years after arrival; (iii) immigrants should be allowed to apply for citizenship at the latest five years after arrival; (iv) the respondent would consider an immigrant to be truly “American” at the latest when they get citizenship; (v) the

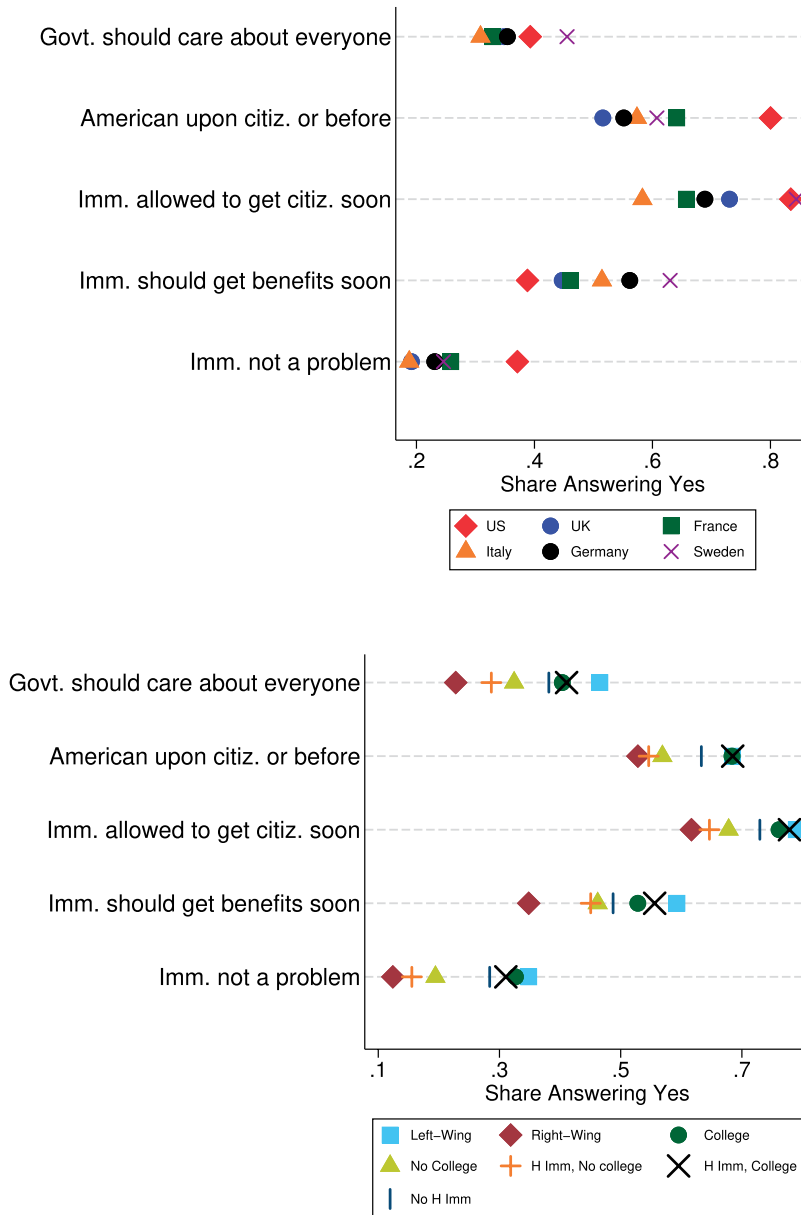


FIGURE 8

Support for immigration

Notes: This figure shows the share of respondents answering “Yes” to the questions listed on the vertical axis, by country (A) and respondent group (B). *Govt. should care about everyone* is a dummy equal to 1 if the respondent thinks that the government should care about all the people living in the country (6 and 7 in a scale from 1 to 7). *American upon citiz. or before* is a dummy equal to 1 if the respondent would consider an immigrant truly “American” at the latest when he gets citizenship. *Imm. allowed to get citiz. soon*, *Imm. should get benefits soon*, and *Imm. not a problem* are dummies equal to 1 if the respondent thinks that immigrants should be allowed to apply for citizenship at the latest five years after arriving, immigrants should be eligible for benefits at the latest 3 years after arriving, and immigration is not a problem, respectively.

government should care equally about everyone living in the country whether born there or not. There are varied patterns of attitudes towards immigration in different countries. In the US, people strongly believe that immigrants should be considered “truly American” as soon as they become citizens, and that they should get citizenship relatively soon. They are also most likely to say immigration is not a problem, and relatively likely to say that the government should care equally about everyone in the country. However, consistent with their lower support for redistribution overall, US respondents are the least likely to say that immigrants should be eligible for benefits soon. In contrast, in France, Italy, Germany, and the UK, respondents are less likely to say the government should care equally about everyone, that immigrants should be allowed to apply for citizenship soon, or that they would consider immigrants as truly “from the country” upon citizenship. Only around a fifth of European respondents believe that immigration is not a problem in their country. Overall, the US is the most supportive of immigration, and France, Italy, and Germany are the least supportive.

The groups that were previously shown to have the least accurate perceptions of immigrants also hold more negative attitudes towards immigration policies, as shown in Figure 8B. Left-wing respondents are the most favourable to immigration; right-wing respondents are the least favourable. The non-college-educated are consistently less supportive than the college-educated, across all dimensions. Those without a college degree in immigration-intensive sectors are more averse to immigration than either people in high immigration sectors in general, or the non-college-educated in general. On the other hand, those with a college degree in high immigration sectors are weakly more supportive than the average respondent with a college degree generally.

4. WHERE DO MISPERCEPTIONS COME FROM?

Where do people’s incorrect perceptions of immigrants come from? In this section, we test several possible channels.

4.1. *Do people confuse immigrants with other groups?*

Respondents may be confused about who is an immigrant and therefore overestimate the share of immigrants. First, they may mistakenly include undocumented immigrants in their estimates. However, the estimated share of undocumented immigrants in the US is 3.5%, and the estimated share in the European countries in our sample is generally less than 0.5%. Hence, if this were the main reason for the large misperceptions, respondents would have to be overestimating the number of undocumented immigrants by a factor of 7 in the US or a factor of 32 in the European countries.

Second, it could be that people conflate first-generation immigrants with second- or higher-generation immigrants and with ethnic or racial minorities. This may signal a genuine lack of knowledge. But for some, it may also reflect an attitude that all minorities are “foreigners,” despite having been in the country for many generations. To check whether this is the case, Figure 9 compares respondents’ perceptions of the share of immigrants to the total number of first- and second-generation immigrants. Adding the share of second-generation immigrants is not enough to close the gap between perceptions and reality, except in Sweden. For instance, in the US, the share of first- and second-generation immigrants is 25.4%, still below the average perceived share of 36%. In Italy, the share of second-generation immigrants is smaller than in most countries. Yet, the average perceived share of immigrants is similar to those in France and Germany, which have a higher share of second-generation immigrants. Furthermore, in the US, respondents’ perceptions of the share of immigrants are not significantly correlated with the local

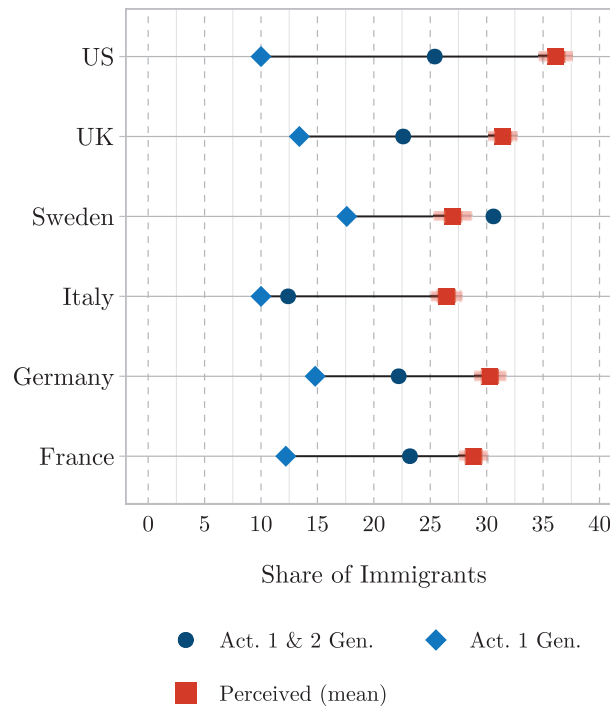


FIGURE 9

Perceived share of immigrants vs. actual share of first- and second-generation immigrants

Notes: This figure shows the average perceived share of first-generation immigrants (squares), the actual share of first-generation immigrants (diamonds), and the actual share of first- plus second-generation immigrants (circles) in each country. The shaded areas are 95% confidence intervals around the mean. The share of first- plus second-generation immigrants for the US also includes undocumented immigrants.

share of African American or Hispanic populations, as reported in [Supplementary Appendix Table A-16](#).¹⁸ Finally, respondents may disagree with our definition of the word “immigrant” and may be trying to make a statement about how many people in their country are immigrants according to their own definition. However, respondents’ misperception of the share of immigrants is not significantly correlated with their answers to our question “*When would you consider an immigrant to be truly [American]?*”

4.2. *The role of local and national variation in the shares and characteristics of immigrants*

One mechanism driving misperceptions may be exposure or the availability heuristic, whereby people who are more exposed to a given phenomenon can exaggerate its actual frequency and prevalence ([Kahneman and Tversky, 1974](#)). To test for this, we exploit the cross-country and within-country heterogeneity in our sample. We correlate the perceptions of the share and characteristics of immigrants with their actual number and characteristics at the national and sub-national levels. The sub-national levels correspond to commuting zones in the US, NUTS1 regions in Germany and the UK, and NUTS2 regions in Italy, France, and Sweden.

Another possible explanation for the misperceptions is that respondents extrapolate from non-immigrants’ characteristics to those of immigrants or that non-immigrants’ characteristics

18. We do not have data on racial or ethnic minorities at the local level for European Countries.

serve as “anchors” of people’s perceptions of immigrants. These patterns could be driven by respondents using the “least possible effort” to come to a conclusion (Shah and Oppenheimer, 2008). Or, respondents may instead over-emphasize the differences between non-immigrants and immigrants and “stereotype” immigrants (Bordalo *et al.*, 2016). To provide a test for possible extrapolation from non-immigrants’ characteristics and amplification of the immigrant-non-immigrant differences (stereotyping), we regress respondents’ perceptions of immigrants on the characteristics of non-immigrants locally and nationally, as well as on the difference between immigrants’ and non-immigrants’ characteristics.

We start by grouping perceptions and actual characteristics into indices for clarity (detailed definitions are in [Supplementary Appendix A-1](#)). Each index, constructed following the methodology in Kling, Liebman and Katz (2007), is the standardized and unweighted average of the z-scores of its component variables, where z-scores are obtained by subtracting the mean and dividing by the standard deviation of the control group (i.e., the group that saw no treatment videos). In Table 2, the dependent variables are the misperception of the share of immigrants (Column 1); the perceived cultural distance index, which summarizes views on the origins of immigrants and their religion and is increasing the more culturally distant immigrants are perceived to be (Column 2); the perceived economic weakness index, which summarizes the perceptions on the education level, unemployment, and poverty rates of immigrants (Column 3); and the perceived free-riding index, which captures whether respondents think that immigrants are more likely to take advantage of and free-ride on the welfare system and is higher if respondents believe that immigrants are poor due to lack of effort rather than adverse circumstances, that Mohammad receives more on net than John, and that immigrants receive more transfers than non-immigrants (Column 4). For the first two indices, we can construct an actual counterpart based on the data available at the local level.

In Table 2, we regress the respondents’ perceptions of each of these indices on their actual value in the respondents’ region of residence, controlling for a full array of individual characteristics and country fixed effects.¹⁹

We then consider variables individually in Table 3. Panel A reports the correlation between perceptions of the share and characteristics of immigrants and their actual values at the national and local levels. The correlations are estimated in separate linear regressions that include the same personal controls listed in Table 2 (local level regressions also include country fixed effects). Panel B shows the correlation between perceptions of immigrants’ economic characteristics and their actual equivalents for non-immigrants. In Panel C, we regress perceptions of immigrants’ economic characteristics on actual differences between immigrants and non-immigrants in the same characteristics. Finally, in Panel D, we benchmark these correlations by showing the relation between perceived and actual characteristics for non-immigrants.²⁰

4.2.1. Misperceptions of the share of immigrants. The misperception of the share of immigrants is positively correlated with the local share of immigrants. As shown in Table 2, a 1 percentage point higher local share of immigrants is associated with a 0.2 percentage points larger misperception of the national share of immigrants. Respondents that are more exposed to immigrants in their daily lives—those who work in a high immigration sector and those who

19. Note that, since respondents are asked about their perceptions of variables at the national level and since we are controlling for country fixed effects, which absorb the true value of each dependent variable at the country level, the correlations are the same regardless of whether we consider perceptions in levels or misperceptions (equal to perceptions minus actual value) as outcome variables.

20. Note again that, at the local level, since we control for country fixed effects and perceptions elicited are about national statistics, the correlation would be the same if we considered misperceptions.

TABLE 2
Perceived vs. actual share, cultural distance, economic weakness, and free-riding of immigrants at the local level

	All immigrants (misp.) (1)	Perc. cultural distance index (2)	Perc. econ. weakness index (3)	Perc. free-riding index (4)
Local share of immigrants	0.203*** (0.0453)			
Actual local cultural distance index		0.0515*** (0.0147)		
Actual local economic circumstances index			0.0981*** (0.0296)	
Right-wing	0.895 (0.572)	0.0663*** (0.0233)	0.315*** (0.0275)	0.566*** (0.0278)
Female	4.143*** (0.567)	0.0108 (0.0223)	-0.0650** (0.0266)	0.0170 (0.0268)
Age 18–45	4.028*** (0.566)	-0.0181 (0.0223)	-0.0996*** (0.0267)	0.0299 (0.0269)
Immigrant parent	6.002*** (1.052)	0.0923*** (0.0338)	-0.112** (0.0456)	-0.0828** (0.0416)
Has a college degree	-4.219*** (0.788)	-0.0129 (0.0322)	-0.182*** (0.0380)	-0.236*** (0.0383)
High income	0.0586 (0.799)	0.00759 (0.0305)	-0.0480 (0.0360)	-0.118*** (0.0350)
H. Imm. Sect. no college	3.326*** (0.747)	0.000657 (0.0296)	0.116*** (0.0353)	0.0642* (0.0367)
H. Imm. Sect. college	1.766** (0.889)	-0.0300 (0.0348)	0.00703 (0.0420)	0.0832** (0.0394)
Observations	5047	5065	5065	5065
Control mean	17.67	0.00	0.00	0.00

Notes: Column (1) reports the correlation between the misperception of the share of immigrants (defined as the perceived share minus the actual national share) and the actual share of immigrants in the respondent's region (see [Supplementary Appendix A-1](#) for details). Columns (2)–(4) report the correlation between the perceived cultural distance, perceived economic weakness, and perceived free-riding indices and their actual equivalent in the respondent's region. We do not have the equivalent counterpart for the perceived free-riding index—most likely it is 0. Hence, we omit it from the regression. All indices are constructed following the methodology in [Kling et al. \(2007\)](#) (see [Supplementary Appendix A-1](#) for more details). All the regressions include country fixed effects and the controls listed on the left: indicator variables for gender, age less than 45, being in the top quartile of the income distribution, having a college degree, political affiliation, having at least one parent not born in the country, working in a high immigration sector and having a college degree, working in a high immigration sector and not having a college degree. Robust standard errors in parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. Sample: respondents who have not seen any video treatment.

have at least one parent born abroad—tend to exaggerate the share of immigrants by more than other respondents. These patterns are consistent with the exposure and availability heuristic hypotheses.²¹ As Table 3 Panel A shows, however, the perception of the share of immigrants is negatively correlated with the national share of immigrants. Recall that respondents in all countries overestimate the share of immigrants, and countries with the largest actual share also have the smallest perceptions errors on average (e.g. Sweden).²²

4.2.2. Misperceptions of the cultural and economic characteristics of immigrants.

Respondents' perceived cultural and economic characteristics of immigrants are significantly

21. In [Supplementary Appendix Table A-15](#), we further show the correlation between “having an immigrant friend or acquaintance” and misperceptions about immigrants. Respondents who have an immigrant friend or acquaintance perceive a lower share of immigrants, overestimate immigrants' cultural distance, but perceive immigrants as less economically weak and less likely to free-ride.

22. If we used the misperception instead of the perception as the dependent variable, the coefficient would simply be reduced by one.

TABLE 3
Correlations between perceived and actual characteristics of immigrants and non-immigrants at the local and national levels

Share of immigrants (1)	Imm. from America (2)	Imm. from Africa (3)	Imm. from Asia (4)	Imm. from Europe (5)	Unemployment imm. (6)	No high school imm. (7)	College-educated imm. (8)	Poverty imm. (9)	Muslim imm. (10)
Panel A: Correlation of perceived immigrants' characteristics with actual immigrants' characteristics									
Local correlation	0.203*** (0.0453)	0.0859*** (0.0303)	0.155*** (0.0566)	0.139*** (0.0295)	0.155*** (0.0280)	0.585*** (0.147)	0.0718 (0.0545)	0.0600 (0.0457)	
National correlation	-0.517*** (0.118)	0.478*** (0.0146)	0.517*** (0.0171)	0.376*** (0.0207)	0.268*** (0.0146)	1.054*** (0.0743)	0.725*** (0.0327)	0.324*** (0.0225)	0.333*** (0.0502)
Panel B: Correlation of perceived immigrants' characteristics with actual non-immigrants' characteristics									
Local correlation	0.896*** (0.132)	0.110 (0.0858)	0.0974** (0.0418)	0.440*** (0.0711)					
National correlation	1.503*** (0.142)	0.486*** (0.0403)	0.640*** (0.0351)	0.0376 (0.132)					0.786*** (0.0236)
Panel C: Correlation of perceived immigrants' characteristics with actual immigrants-non-immigrants differences									
Local correlation	-0.468*** (0.142)	0.0354 (0.0660)	-0.0413 (0.0433)						
National correlation	1.287*** (0.106)	0.768*** (0.0443)	0.256*** (0.0477)	0.438*** (0.0582)					
Panel D: Correlation of perceived non-immigrants' characteristics with actual non-immigrants' characteristics									
Local correlation	0.782*** (0.104)	0.232*** (0.0821)	0.0692* (0.0419)	0.350*** (0.0614)					
National correlation	1.941*** (0.112)	0.535*** (0.0386)	0.160*** (0.0384)	-0.462*** (0.113)					

Notes: Panel A reports the correlation between the perceptions of immigrants' characteristics listed in the columns and their actual equivalent at the commuting zone or regional level ("Local correlation") or at the national level ("National correlation"). Panel B reports the correlation between the perceptions of immigrants' characteristics listed in the columns and the actual corresponding characteristics for non-immigrants (at the local and national level). Since we do not have statistics on the poverty rate separately for immigrants and non-immigrants at the local level, in Column (4), we report the correlation with the local overall poverty rate. Panel C reports the correlation between the perceptions of immigrants' characteristics listed in the columns and the actual difference in that characteristic between immigrants and non-immigrants (at the local and national level). Panel D reports the correlation between perceptions of non-immigrants' characteristics listed in the columns and their actual equivalent at the local or national level. The correlations are estimated in linear regressions including the indicator variables listed in Table 2. Local level regressions also include country fixed effects. Robust standard errors in parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$. Sample: respondents who have not seen any video treatment.

positively correlated with the actual characteristics of immigrants in their country and locality. Thus, in places where immigrants are more culturally distant or economically weaker (relative to the national average), respondents tend to perceive them as more culturally distant and economically weaker. As seen in Table 2, a one standard deviation increase in the local cultural distance index increases the perceived cultural distance by 0.05 s.d.; a 1 s.d. increase in the economic weakness index increases the perceived economic weakness by 0.1 s.d.

Furthermore, considering more detailed perceptions, Table 3 shows that the correlations between perceptions and the corresponding local immigrants' characteristics are all positive and statistically significant. An exception is the education level of immigrants, which may be particularly hard to infer from observation alone. The strongest correlation is between perceived and actual local unemployment rate—a one percentage point higher local unemployment rate of immigrants is associated with a higher perceived unemployment of about 0.6 percentage points. The correlations between perceptions and actual statistics are also positive and statistically significant at the national level. As a comparison, Table 3 Panel D shows that perceptions of non-immigrants' unemployment, education, and poverty are generally also positively and significantly correlated with the actual values at both the local and national levels.

There are significant cross-correlations between non-immigrants' characteristics and perceptions of immigrants at both the local and national levels. Table 3 Panel B shows that in areas or countries where non-immigrants have higher unemployment rates, immigrants tend to be perceived as more unemployed as well; the same applies to education and poverty levels. These patterns are consistent with extrapolation from non-immigrants' characteristics and anchoring. Nevertheless, Table 3 Panel C suggests that people do understand the differences between immigrants' and non-immigrants' economic conditions and may be stereotyping immigrants, at least at the national level. We find that perceptions of immigrants along a given dimension are strongly positively correlated with differences between immigrants and non-immigrants along that dimension. For instance, people believe that immigrants' unemployment rate is higher in counties where immigrants are actually more unemployed than non-immigrants. Similarly, in countries where immigrants have lower education or higher poverty rates than non-immigrants, people do perceive immigrants as less educated and more likely to be poor.

Direct exposure to more immigrants through family or work matters not only for perceptions of the share of immigrants but also for perceptions of their characteristics. Table 2 shows that second-generation immigrants tend to perceive immigrants as more culturally distant, but economically stronger and less likely to free-ride. On the contrary, respondents who work in an immigration-intensive sector believe that immigrants are economically weaker and more likely to free-ride on government assistance.

To sum up, perceptions of immigrants' characteristics are positively correlated with reality at the local and national levels. Furthermore, while respondents do extrapolate from non-immigrants' economic characteristics, their perception of each economic characteristic of immigrants is increasing when that characteristic is more represented among immigrants than among non-immigrants.

4.3. *Media coverage of immigration*

We also investigate whether misperceptions of immigrants are correlated with media coverage of immigration. If immigration is very salient in the news, people may be led to overestimate the share of immigrants. In addition, if some characteristics of immigrants systematically receive more coverage than others, people may over-perceive their actual prevalence. We construct two measures of national media coverage of immigration based on data compiled by the platform *Media Cloud*

(Roberts, Bhargava, Valiukas, Jen, Malik, Bishop, Ndulue, Dave, Clark, Etling, Faris, Shah, Rubinovitz, Hope, D'Ignazio, Bermejo, Benkler and Zuckerman, 2021), as described in [Supplementary Appendix A-14](#). The first measure is the 3-day moving average of the share of articles that are related to immigration. The second is the 3-day moving average of the share of articles that mention immigrants in conjunction with keywords related to unemployment and reliance on welfare. We control for country fixed effects in this analysis, leveraging the fact that different respondents took the survey on different days that had different intensities of media coverage of immigration. These results should be taken as suggestive since we cannot control for the actual news that any given respondent consumes, nor account for the endogeneity of news coverage to national events or policy views and perceptions.

[Supplementary Appendix Table A-53](#) shows that overall media coverage of immigration is positively correlated with the perceived cultural distance of immigrants, with the perceived share of immigrants from the Middle East, and with the perceived share of Muslim immigrants. It is, however, negatively correlated with the perceived share of immigrants. Thus, media coverage may not inflate misperceptions of the share of immigrants but may emphasize the perceived cultural diversity of immigrants. Conditional on overall media coverage of immigration, coverage of immigrants that is specifically related to redistribution is positively correlated with the perceived share of immigrants and with the perceived economic weakness of immigrants. Such coverage is also associated with a decline in perceived free-riding of immigrants suggesting that the media's portrayal of economic struggles immigrants are facing may actually make respondents more likely to think that immigrants are the victim of adverse circumstances rather than free-loaders.

5. THE LINK BETWEEN IMMIGRATION PERCEPTIONS AND REDISTRIBUTION

We now discuss the results of our experiments. We start with the priming or salience treatment that randomizes the order in which respondents see the “redistribution” and the “immigration” blocks. Thus, this treatment tests whether simply making the immigration issue more salient to respondents—without any further information—affects their answers to the questions on redistribution. We then turn to testing the channels through which this treatment acts by showing the results from three video treatments providing information on the share of immigrants, their countries of origin, and their economic contribution.

5.1. *Salience and priming treatment: making respondents think about immigrants*

The effects of the *Order* treatment are shown in the first line of [Table 4](#). These effects are estimated only on respondents who have not seen any of the video treatments. Those who are shown the immigration questions first become more averse to redistribution, as captured by their preference for a less progressive income tax system and less budget allocated to the social safety net and to healthcare spending. They also believe inequality is less of a serious problem and donate less to charity. The magnitudes are economically significant: being prompted to think about immigrants reduces the preferred top income tax rate by around 2 percentage points, which corresponds to a 5% change relative to the control group mean and about 90% of the gap between left- and right-wing respondents. It also increases the preferred tax rate on the bottom 50% by around 1 percentage point, corresponding to 8% of the control mean and around 70% of the gap in the preferred bottom 50% tax rate between left and right respondents. The share of respondents who say inequality is a serious problem declines by about 3 percentage points, which represents around

TABLE 4
Treatment effects on support for redistribution

	Tax top 1 (1)	Tax bottom 50 (2)	Social budget (3)	Education budget (4)	Inequality serious problem (5)	Donation above median (6)
Order/salience T	-1.948*** (0.416)	0.914*** (0.276)	-0.543** (0.238)	0.439** (0.175)	-0.0280** (0.0132)	-0.0479*** (0.0138)
T: share of immigrants	-0.627 (0.419)	0.0449 (0.278)	-0.479** (0.233)	0.188 (0.172)	-0.00590 (0.0133)	-0.0165 (0.0140)
T: origin of immigrants	-0.0662 (0.425)	0.0322 (0.284)	-0.465* (0.239)	0.164 (0.173)	0.00626 (0.0132)	0.00208 (0.0140)
T: hard work	0.0772 (0.422)	-0.212 (0.279)	-0.0944 (0.235)	0.333** (0.170)	0.0158 (0.0132)	0.00910 (0.0139)
Observations	19,765	19,765	19,765	19,765	19,763	19,765
Control mean	37.12	10.94	29.53	16.00	0.59	0.47

Notes: This table reports the effects of the *Order* treatment and the three video treatments on the variables in the columns. Outcome variables are described in [Supplementary Appendix A-1](#). Social and education budget are winsorized at the 5th and 95th percentile by country. Controls included in all regressions are: indicator variables for gender, age less than 45, having children, being in the top quartile of the income distribution, having a college degree, political affiliation, having at least one parent not born in the country, working in a high immigration sector, and country fixed effects. The regressions also include the interactions between the *Order* treatment and the three other treatments, not reported. Hence, the effect of the *Order* treatment is estimated only on respondents who have not seen any of the video treatments, and the effect of each video treatment is estimated only on respondents who have not seen the immigration block before the redistribution block. This implies that each treatment effect is effectively estimated on about 5200 observations, equally split between treatment and control. Robust standard errors in parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

5% of the control group mean and 11% of the gap between left- and right-wing respondents.²³ Seeing the immigration block first reduces desired social spending by 24% of the gap in the desired spending between left- and right-wing respondents, or around 2% of the control group mean.

Note, however, that the treatment increases support for spending on education policies by 3% of the control group mean or 40% of the gap in the desired spending between left- and right-wing respondents. There are several possible interpretations for this result. One is that respondents would like younger immigrants or their children to be more educated and able to contribute more to society; the other is that they may think that education policies will not specifically benefit immigrants who arrive at later ages. The treatment effects from the video treatments also show positive effects on education policy.

In [Supplementary Appendix Table A-23](#), we show that the opposite treatment, i.e., seeing the redistribution block before the immigration block, has no effects on perceptions of and support for immigration. This supports the idea that the direction of causality is from perceptions of immigrants to support for redistribution rather than the other way around.

5.1.1. Explaining the effects of the salience treatment. Why does priming respondents to think about immigration reduce their support for redistribution? We investigate three channels: (1) the share of immigrants channel: people think that there are too many immigrants and that more of each dollar of redistribution goes towards immigrants; (2) the cultural diversity channel: people dislike redistributing towards those who are culturally different from them, and they think immigrants are culturally distant from them; (3) the economic channel: people think immigrants are economically weaker than non-immigrants and that they are more likely to benefit from

23. The answers to all the questions about immigration policies and about redistribution are tabulated by country and respondent characteristics in [Supplementary Appendix Tables A-17](#) and [A-18](#).

redistribution. Worse, they may think that immigrants are more likely to free-ride on the welfare system. We test these channels in two ways. First, we group respondents' perceptions of and attitudes towards immigrants into categories corresponding to these channels and correlate them with respondents' support for redistribution. This allows us to see which set of perceptions and beliefs is the strongest predictor of opposition to redistributive policies. We then experimentally shift respondents' perceptions of immigrants' numbers, origins, and economic contribution using our video treatments, and see how their attitudes towards redistribution change.

5.2. *Testing the channels: correlation between misperceptions and policy views*

We construct two indices to capture support for immigration and redistribution. Support for immigration is measured by an index constructed following the methodology outlined above based on the variables related to support for immigration from Table 6. This index is higher for respondents who support more open immigration policies. Support for redistribution is captured by an index based on the variables from Table 4 and is higher for respondents who support more generous redistribution policies.²⁴ We next regress the immigration support and the redistribution support indices on the perceived share, cultural distance, economic weakness, and free-riding of immigrants, an array of individual covariates, and country fixed effect. Figure 10 plots the main coefficients (individual covariates and fixed effects are not reported).²⁵

The strongest predictor of opposition to both immigration and redistribution is the perception that immigrants free-ride on the welfare system. A 1 s.d. increase in the perceived free-riding index reduces the immigration support index by 0.38 of a s.d. and the redistribution support index by 0.11 of a s.d. Perceived economic weakness of immigrants is also a strong predictor of opposition to immigration and redistribution. A 1 s.d. increase in the perceived economic weakness index reduces the immigration support index by 0.17 of a s.d. and the redistribution support index by 0.08 of a s.d. The perceived cultural distance of immigrants has more nuanced effects: while it is negatively correlated with support for immigration, it is mildly positively correlated with support for redistribution. The perceived share of immigrants in the population is uncorrelated with support for immigration, and only slightly negatively correlated with support for redistribution.

These patterns are consistent with the correlations between views on immigration and respondent characteristics observed earlier. People who are exposed to immigrants, but that we may expect to have a positive opinion of immigrants (those with immigrant parents, left-wing respondents, or those who know an immigrant personally) perceive a larger cultural distance between non-immigrants and immigrants, but do not perceive immigrants as economically weaker or more likely to free-ride (and do support immigration). From this correlational analysis, the economic channel seems to be the strongest predictor of support for redistribution.

The result that perceived free-riding of immigrants is negatively correlated with support for redistribution is consistent with previous literature showing that people care about the deservingness of the recipients of redistribution. People who believe that poverty and wealth are determined by factors that individuals can control are less supportive of redistribution than those who believe income and wealth are shaped by adverse circumstances such as bad

24. Both indices are standardized so that they have mean 0 and standard deviation 1 in the control group.

25. All these correlations are estimated only on respondents who have not seen any video treatment. [Supplementary Appendix Tables A-19](#) and [A-21](#) report these regression results in full detail, as well as regressions of the perception indices on the components of the immigration and redistribution support indices. In [Supplementary Appendix Tables A-20](#) and [A-22](#), we report the correlations between the immigration and redistribution support indices and their components and all components of the perception indices (see also [Supplementary Appendix Figures A-9](#) and [A-10](#)).

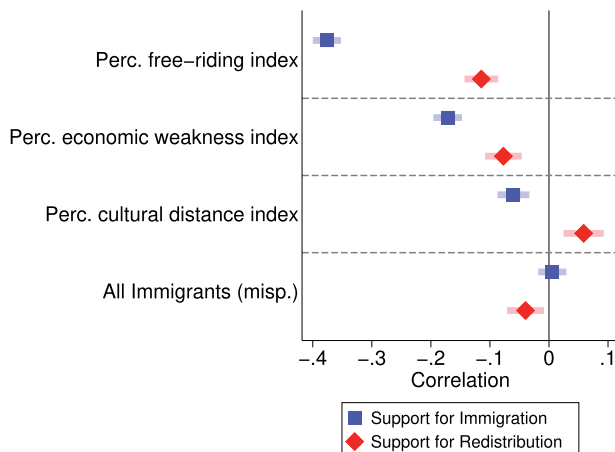


FIGURE 10

What drives support for immigration and redistribution?

Notes: This figure shows the correlation between the variables listed on the left and the immigration support index (squares) or the redistribution support index (diamonds). Indices are defined following the methodology in Kling *et al.* (2007) (see Supplementary Appendix A-1 for more details). Each set of correlations is estimated in a regression including all the variables listed on the left, plus standard personal controls—indicator variables for gender, age less than 45, having children, being in the top quartile of the income distribution, having a college degree, political affiliation, having at least one parent not born in the country, working in a high immigration sector—and country fixed effects. All variables are transformed into z-scores, and the reported coefficients can be interpreted as partial correlations. The shaded areas are 95% confidence intervals constructed from robust standard errors. Sample: respondents who have not seen any video treatment.

luck or lack of opportunity (Fong, 2001; Alesina and Giuliano, 2011). Respondents are also more generous towards poor people that they perceive to be hard working as opposed to lazy (Saez and Stantcheva, 2016; Drenik and Perez-Truglia, 2018). The aversion to free-riding and to “free-loaders” and its implications for redistribution have also been documented in lab settings (Fehr and Gächter, 2000; Cubitt, Drouvelis and Gächter, 2011; Lefgren, Sims and Stoddard, 2016).

5.3. Testing the channels experimentally: the video treatments

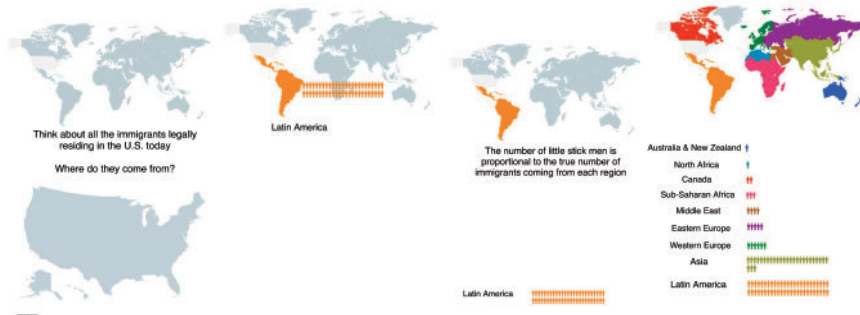
5.3.1. The video treatments. The first treatment, called the *Share of immigrants* treatment, informs respondents about the actual share of immigrants in their country (see Figure 11A). To give respondents an accurate view of how their country ranks among other developed countries, the video also compares the domestic immigrant share to the immigrant shares of the OECD countries with the lowest and highest shares of immigrants (Finland, with 6.1%, and Switzerland, with 29.1%).²⁶

26. Because the issue of undocumented immigration is so salient in the US, we run two versions of this treatment there: one shows respondents the share of total immigrants (13.5%), another one shows them the share of documented immigrants (10%); in the text displayed in each version, it is made clear whether the number relates to total or documented immigrants. We weighed several considerations. On the one hand, showing respondents in the US only documented immigrants may still leave them with very large overestimates of the share of undocumented immigrants; on the other hand, making respondents focus on the gap between documented and undocumented immigrants would make the US treatment different from the treatment in the other countries (where this gap is close to negligible). We thus decided to run the two versions of this treatment on different samples of respondents and report both sets of results. As we will show, neither version increases support for redistribution. Since the other two treatments are designed in a more qualitative way, they would not change noticeably if we also ran a version for total immigrants for each of them (rather than for documented immigrants only).

A



B



C

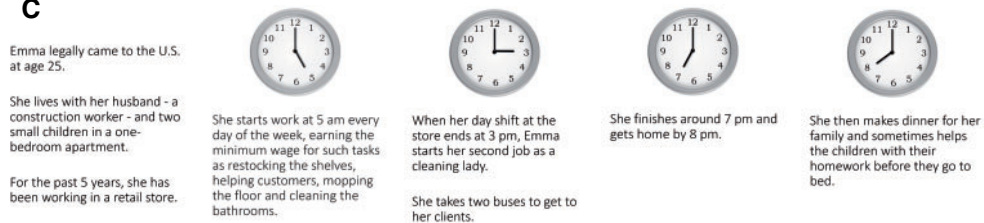


FIGURE 11

Video treatments

Notes: This figure shows some screenshots of the three video treatments. See [Supplementary Appendix Figures A-2, A-3, and A-4](#) for the full set of screenshots. (A) Treatment 1—*Share of immigrants*. (B) Treatment 2—*Origins of immigrants*. (C) Treatment 3—*Hard work of immigrants*.

The second treatment informs respondents about the origins of the immigrants in their country. We call it the *Origins of immigrants* treatment, and it is illustrated in Figure 11B. All the countries in the world are grouped into nine broad regions (North America,²⁷ Latin America, Eastern Europe, Western Europe, Sub-Saharan Africa, the Middle East, North Africa, Australia and New Zealand, and Asia). Respondents see a map, where each region is sequentially shown in a different colour (to avoid confusion about which region any given country belongs to). A number of stick people proportional to the number of immigrants from that region appears and moves to the bottom of the screen, where they remain until the end of the video.

The third video tells an anecdote and does not provide factual information. This *Hard work* treatment aims to counter the narrative that immigrants free-ride on the welfare system. It shows a “day in the life” of a very hard-working immigrant.²⁸ She works long hours, puts in a lot of effort to study at night in order to improve her modest living conditions and those of her children,

27. Or simply “Canada” in the US survey.

28. There are many articles in the media providing examples of very hard-working immigrants. We have combined several sources and changed the names. Two examples are *The Washington Post* “They said I was going

TABLE 5
First-stage treatment effects on perceptions

	All immigrants (misp.) (1)	Accurate perception all immigrants (2)	M. East and N. Africa (misp.) (3)	N. America, W. and E. Europe (misp.) (4)	Muslim (misp.) (5)	Christian (misp.) (6)	Lack of effort reason poor (7)
T: share of immigrants	-4.864*** (0.411)	0.227*** (0.00691)	-0.248 (0.313)	0.173 (0.357)	0.00857 (0.419)	0.144 (0.397)	0.000297 (0.00921)
T: origin of immigrants	2.315*** (0.426)	0.00251 (0.00411)	-4.794*** (0.295)	1.827*** (0.356)	-1.829*** (0.405)	2.456*** (0.397)	-0.000234 (0.00925)
T: hard work	0.709* (0.409)	-0.00420 (0.00396)	-0.385 (0.308)	0.378 (0.352)	-0.869** (0.404)	0.796** (0.393)	-0.0535*** (0.00899)
Observations	19,735	19,735	19,747	19,728	19,761	19,757	19,721
Control mean	17.02	0.04	12.60	-5.56	11.30	-23.98	0.36

Notes: This table reports the first-stage effects of the three video treatments on (mis)perceptions of immigrants. Misperceptions are computed as perception minus actual statistic. *Accurate perception all immigrants* is a dummy equal to 1 if the absolute value of the respondent's misperception of the share of immigrants is less than 1. [Supplementary Appendix A-1](#) defines all variables. All regressions include the same controls as Table 4. Robust standard errors in parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

TABLE 6
Treatment effects on support for immigration

	Imm. not a problem (1)	Imm. benefits soon (2)	Imm. citizenship soon (3)	American upon citizenship/before (4)	Govt. should care about everyone (5)	Imm support index (6)
T: share of immigrants	0.0242*** (0.00825)	0.00991 (0.00959)	0.0158* (0.00857)	0.00508 (0.00936)	-0.00395 (0.0359)	0.0364** (0.0181)
T: origin of immigrants	0.00527 (0.00822)	0.00360 (0.00961)	0.000649 (0.00863)	0.00448 (0.00937)	-0.00222 (0.0361)	0.00877 (0.0182)
T: hard work	0.0252*** (0.00829)	0.0202** (0.00957)	0.0133 (0.00857)	0.0171* (0.00934)	0.131*** (0.0359)	0.0708*** (0.0181)
Observations	19,727	19,749	19,745	19,742	19,754	19,765
Control mean	0.25	0.49	0.71	0.62	4.53	0.00

Notes: This table reports the effects of the three video treatments on the variables in the columns. Outcome variables are described in [Supplementary Appendix A-1](#). The immigration support index is constructed following the methodology in [Kling et al. \(2007\)](#), as explained in [Supplementary Appendix A-1](#). All regressions include the same controls as Table 4. Robust standard errors in parentheses. * $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$.

and hopes to start her own small business in the future. The video walks respondents through the hours of this immigrant's day, as indicated by a clock at the top of the screen (see [Figure 11C](#)).

5.3.2. First stage effects on perceptions. The first-stage effects of the video treatments on perceptions of immigrants are shown in [Table 5](#). Each treatment significantly affects perceptions along the dimension it was designed for, and generally does not shift perceptions along the other dimensions.²⁹

The *Share of immigrants* treatment reduces respondents' misperception of the share of immigrants by 5 percentage points (Column 1). Given how far perceptions were from reality

to work like a donkey. I was grateful" on 11 July 2017 available at <https://www.washingtonpost.com/news/wonk/wp/2017/07/11/they-said-i-was-going-to-work-like-a-donkey-i-was-grateful> and *Forbes* "6 Immigrant Stories That Will Make You Believe In The American Dream Again" on 4 October 2016 available at <https://www.forbes.com/sites/monteburke/2016/10/04/6-immigrant-stories-that-will-make-you-believe-in-the-american-dream-again>.

29. Given space constraints, the main text table contains only some perceptions. [Supplementary Appendix Table A-25](#) provides the first stage on all perception variables.

to start with, this represents a bit less than one-third of the average misperception in the control group. Some respondents may not have believed the info provided, especially if it clashed with their prior, or they may not have paid sufficient attention to the exact number. [Supplementary Appendix Figure A-11](#) shows the full histograms of responses in the control and treatment groups for each country. The treatment significantly compresses all responses in the treated group towards zero or low misperceptions. But some groups of respondents—namely those with extreme initial responses—maintain their extreme opinions. Thus, the respondents with the most extreme misperceptions may also be less receptive to the truth. Column 2 shows the effects of the treatment on a dummy equal to 1 if the respondent's misperception is close to zero. While only 4% of respondents are correct in the control group, this share increases to 27% among respondents treated with information on the number of immigrants. In fact, the share of respondents who are accurate within 2 percentage points is 35% in the treatment group, as opposed to 10% in the control group; the share of those who are accurate within 5 percentage points is 49% in the treatment group and 25% in the control group. This treatment does not significantly affect the perceived origins of immigrants, or their perceived work ethic, which is as intended. For the US, the results for the “documented only” version of the *Share of immigrants* treatment in [Supplementary Appendix Table A-24](#) are naturally stronger, since the number of documented immigrants is lower than the number of total immigrants. The misperception on the share of immigrants is reduced by 13 percentage points, and the share of respondents who are exactly correct is 42% in the treated group, as opposed to just 6% in the control group. Yet neither version of this treatment manages to improve support for redistribution.

The *Origins of immigrants* treatment significantly reduces some of the misperceptions on the origins of immigrants. It decreases the misperceptions of the share of immigrants from the Middle East and North Africa by 38% relative to the control group (Column 3), as well as Muslim immigrants overall by 16% (column 5). It also decreases the misperceptions (equivalent to increasing the perceived shares) of immigrants from North America, Eastern and Western Europe by 32% (Column 4) and Christian immigrants by 10% (Column 6). It does not shift the perceived work effort of immigrants (Column 7). It does, however, increase the perceived share of immigrants overall. Related to this, we argue below that the video treatments have the unavoidable side effect of making immigration more salient.

The *Hard work* treatment makes treated respondents 5 percentage points less likely to say that lack of effort is the reason why poor immigrants are poor, which represents a 15% reduction relative to the control group. It also reduces the misperception of the unemployment rate of immigrants by 9% relative to the control group ([Supplementary Appendix Table A-25](#)). In addition, there is a small effect on the perceived total share of immigrants, which could again be due to the treatment prompting people to think about immigrants overall.

5.3.3. Persistence. We ran a follow-up survey in the US to check how persistent the effects on perceptions were. Twenty-five percent of the originally surveyed respondents took the follow-up survey between 1 and 2 weeks after the original survey. There is no clear selection in taking the follow-up survey, although groups which in general have lower response rates, namely male, high-income, and respondents 18–45 years old are less likely to take it (see [Supplementary Appendix Table A-14](#)).

[Supplementary Appendix Table A-26](#) shows the results from this follow-up survey and confirms that information about the share and origins of immigrants is much weaker and less able to shift views than the *Hard work* treatment, perhaps because facts are not as appealing or harder to remember than a narrative, or because people do not believe them. The treatment *Origins of*

immigrants does persistently decrease the perceived share of Middle Eastern and North African immigrants and increases the perceived share of Latin American immigrants. The treatment *Share of immigrants* does not exhibit persistent effects. The *Hard work* treatment displays strong persistence, with a treatment effect on respondents who took the first and follow-up survey that is almost identical in the two surveys.

5.3.4. Second stage effects on support for immigration and redistribution. Before turning to our main outcomes of interest—support for redistribution policies—we briefly consider the impacts of the treatments on support for immigration policies. Consistent with the correlation patterns shown in Figure 10, Table 6 shows that the *Share of immigrants* treatment somewhat increases support for immigration overall and in particular reduces the perception that immigration is a problem. The *Hard work* treatment has the strongest positive effects on overall support for immigration and specifically on the likelihood of saying that immigrants should get benefits sooner, that immigration is not a problem, and that the government should care equally about everyone. The *Origins of immigrants* treatment barely has any effect.

Table 4 shows the effects of the video treatments on respondents' views on redistribution. These effects are estimated only on respondents who did not see the immigration block before the redistribution block. The treatments on the share and origins of immigrants have negative, mostly insignificant effects on redistribution. The *Hard work* treatment has less negative, and even some positive effects on support for redistribution (which are insignificant, except for spending on education policies). How should we interpret these results? Recall that the perceived share and the perceived cultural distance of immigrants are only weakly related to support for redistribution. Therefore, it is not surprising that shifting these perceptions generates little impact on policy preferences. However, it remains to be explained why the effects are negative, albeit insignificant. Likely, the reason is that each treatment has two effects. First, they unavoidably prime respondents to think about immigration, before they answer the questions on policies and redistribution. They thus increase the salience of immigration, which has a negative effect on support for redistribution *per se*. Second, they provide some factual information or narrative about immigrants, which could in principle reassure respondents. However, that content alone is not sufficient to correct for the many baseline misperceptions about immigrants and counter the negative prime. As shown above, perceptions of the economic weakness of immigrants and, most importantly, of their likelihood to free-ride on the welfare system are most strongly correlated with support for redistribution. The *Hard work* treatment counters these narratives by providing an anecdote of a very hard-working immigrant. This treatment has the least negative effects, suggesting it is able to neutralize more of the negative priming effect, but not all of it.³⁰

Overall, the treatment effects suggest that views on immigration and redistribution—and the underlying perceptions and narratives they are based on—are hard to shift. “Hard facts” have very limited impact in this context. A new narrative that counters an existing one—such as the story of a hard-working immigrant to counter the narrative about immigrants free-riding—shifts views to some extent. Yet, because the narratives about and misperceptions of immigrants are entrenched, salience, and priming have stronger effects.

5.4. Heterogeneity in treatment effects

Supplementary Appendix Table A-27 shows the heterogeneity in treatment effects according to four key respondent characteristics, which we highlighted in Section 3: left- and right-wing respondents (Supplementary Appendix Table A-27 Panel A); college and non-college-

30. Note that there is again the same distinct pattern for education policies that we pointed out above for the salience treatment, namely that support for spending on education goes in the opposite direction of the other redistributive policies.

educated (Supplementary Appendix Table A-27 Panel B); women and men (Supplementary Appendix Table A-27 Panel C); non-college-educated in immigration intensive sectors and others (Supplementary Appendix Table A-27 Panel D). We focus here on the effects of the *Order* treatment, which is the treatment with the most significant effect in the overall sample.³¹

The heterogeneous treatment effects are noisy and we cannot detect statistically significant differences. Nevertheless, they suggest that the groups that react most negatively to seeing the immigration block first are generally those with the most incorrect priors about immigrants, namely the right-wing, the non-college-educated, and the non-college-educated in high immigration sectors: these groups want less government-driven redistribution (i.e., less income tax progressivity and less social spending) and less private charity donations. Note, however, that even left-wing respondents decrease their support for redistribution when they are primed to think about immigrants first.

5.5. Robustness checks

We test for the robustness of our results in several ways. To start with, the lack of statistical significance of some of the treatment effects does not appear to be due to a lack of power (see Supplementary Appendix A-12). We also try pooling the *Share of immigrants* and the *Origins of immigrants* treatments (see Supplementary Appendix A-12). The coefficients that are insignificant in the non-pooled specification remain insignificant, further indicating that the lack of statistical significance is not due to a lack of statistical power.

To ensure that our results are not driven by careless answers, we implement a number of *ex post* checks on the response quality by considering the time spent on questions and looking for suspicious answers patterns (see Supplementary Appendix A-6.3). We then reproduce all of our results on a “reduced sample” that excludes respondents flagged as having careless answers, as well as answers to questions on which respondents spent too little or too much time. The results reported in Supplementary Appendix A-13.1 suggest that our findings are not driven by (the relatively few) inattentive respondents.

We also drop respondents who felt that the survey was biased (see Supplementary Appendix A-13.2). Doing so strengthens the significance of the treatment effects somewhat, perhaps because the remaining respondents are more receptive to what they perceive to be non-biased information. In addition, re-weighting the sample to make it representative along the two non-targeted dimensions of education and employment does not significantly affect our estimates (see Supplementary Appendix A-13.3).

In our main sample, we exclude respondents in the top and bottom 2% of the distribution of the time spent on the survey, as well as respondents who spent too much time (top 2%) on one of the treatment videos. We check that our results are not affected by these sample refinements (see Supplementary Appendix A-13.4). The first-stage treatment effects are slightly smaller, suggesting that we are excluding some inattentive respondents by trimming the sample. We further check the robustness of our results to the choice of the 2% cut-off by re-estimating the main treatment effects on a smaller sample from which we drop respondents in the top and bottom 5% (see Supplementary Appendix A-13.5). Finally, to account for time-varying factors and events that may have taken place during the period we administered our surveys, we include week fixed effects (see Supplementary Appendix A-13.6).³²

31. The other treatments did not have differential effects by respondent groups.

32. In a smaller pilot study, we randomized the name of the immigrant whose story is told in the *Hard work* treatment between (1) a native-sounding name (“Emma”); (2) a Hispanic sounding name (“Isabella”) for the US and an Eastern

6. CONCLUSION

According to our surveys, respondents from six developed countries have strongly biased views on immigrants. They think that there are many more immigrants than there actually are, have incorrect views about their origins, and believe that immigrants are more reliant on the host country's welfare state, more unemployed, and less educated than they actually are. Misperceptions about immigrants, and the subsequent lack of support for immigration and redistribution, are starkest among three groups of respondents: the non-college-educated, those working in immigration intensive sectors and without a college degree, and right-wing respondents. Misperceptions are shaped by respondents' local exposure to immigrants. Respondents extrapolate to some extent from non-immigrants' characteristics and tend to exaggerate differences between immigrants and non-immigrants. Correlating misperceptions and policy preferences, the strongest predictor of reduced support for redistribution is whether respondents believe in the "free-riding" narratives about immigrants, followed by their perceptions of the economic weakness of immigrants. The perceived cultural distance and the share of immigrants are less predictive of policy support.

Our randomized priming treatment that prompts respondents to think about immigrants and their characteristics before asking them questions about redistribution significantly decreases support for redistribution. However, factual information about the share and origins of immigrants does not increase support for redistribution. On the contrary, it also acts as a prime for respondents to think about immigrants, with the ensuing reduction in support for redistribution that the salience treatment generates. A "hard-work" narrative to some extent counters the negative priming effect on redistribution. Overall, it seems that views on immigration are more sensitive to salience and narratives than to hard facts.

Our results suggest that much of the political debate about immigration takes place in a world of misinformation about immigrants. Obviously, the amount and nature of the information that citizens receive is endogenous. Anti-immigration parties have an incentive to maintain and even foster stereotypes, which can lead to a vicious cycle. The more people are misinformed, the more they may look for confirmation of their stereotypes in the media. The media may then have an incentive to offer information supporting these views in order to cater to their customers. For instance, immigrants who commit crimes or who free-ride on the welfare system may receive more media coverage than non-immigrants engaging in these same behaviours. Conversely, immigrants living in ways similar to non-immigrants may receive less coverage. Another implication of our results could be that a focus on immigration issues in the current political debate could have the unintended consequence of reducing support for redistribution, in addition to reducing support for more open immigration policies. Anti-redistribution parties, even those not averse to immigration *per se*, can appeal to voters' feelings about immigration to generate a backlash against redistribution.

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European name for European countries; and (3) a Muslim-sounding name ("Fatima"). The effects of the treatment were not significantly different across the three name groups, but the samples were small.

Supplementary Data

Supplementary data are available at *Review of Economic Studies* online. And the replication packages are available at <https://dx.doi.org/10.5281/zenodo.5997521>.

Data Availability Statement

The data underlying this article are available in Zenodo, at <https://doi.org/10.5281/zenodo.5997521>.

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